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PUBLIC HEALTH DEPARTMENT.

REPORT

ON THE HEALTH OF THE

CITY OF LIVERPOOL

DURING THE YEAR

1938

BY

W. M. FRAZER, O.B.E., M.D., M.Sc., D.P.H., Barrister-at-Law,

Medical Officer of Health.

LIVERPOOL
C. Tinling & Co., Ltd., Printing Contractors, 53, Victoria Street.

1939

Staff of the Public Health Department.

1938.

Medical Officer of Health :

W. M. FRAZER, O.B.E., M.D., M.Sc., D.P.H., Barrister-at-Law.

Deputy Medical Officer of Health :

C. O. STALLYBRASS, M.D., B.S., M.R.C.S., L.R.C.P., D.P.H.

Senior Assistant Medical Officer of Health :

B. T. J. GLOVER, M.D., Ch.B., D.P.H.

Assistant Medical Officer of Health :

T. R. ROBERTON, M.B., Ch.B., D.P.H.

Maternity and Child Welfare.

Senior Medical Officer in charge of Maternity and Child Welfare and Inspector of Midwives : RUBY E. BELL, M.B., Ch.B., M.R.C.S., L.R.C.P., D.P.H.
Four Assistant Medical Officers at Maternity and Child Welfare Clinics.
Twenty-six part-time Clinic Medical Officers.
Fifty-nine Health Visitors, etc.
Eight Temporary Health Visitors.
Seventeen Probationer Health Visitors.
Three Assistants to Inspector of Midwives.
Two Ophthalmia Neonatorum Nurses.
Fifty-six Municipal Midwives.
Superintendent and Fifty-five Assistants at Infant Milk Centres.
Five Assistants at Cleansing Stations.
Three Caretakers at Welfare Clinics.

Carnegie Welfare Centre.

One Matron.
Two Sisters.
Seven Probationers.
Ten Domestics.

Tuberculosis.

Chief Clinical Tuberculosis Officer : J. P. CLARKE, T.D., M.R.C.S., L.R.C.P., D.P.H.

Clinical Tuberculosis Officers at Clinics : W. H. BUTLER, M.C., M.B., Ch.B., M.R.C.S., L.R.C.P., D.P.H.
R. JACKSON, M.R.C.S., L.R.C.P., D.P.H.
J. A. RUSHWORTH, M.R.C.S., L.R.C.P., D.P.H.

Nine Nurses at Tuberculosis Clinics.

Venereal Diseases.

Senior Medical Officer: A. O. ROSS, M.D., Ch.B., D.P.H. (part-time).
Assistant Medical Officers:—
E. E. PREBBLE, M.D., Ch.B., M.R.C.S., L.R.C.P. (part time).
G. R. ELLIS, M.D., Ch.B., M.R.C.S., M.R.C.P. (part time).
E. LOUISE HOWARD, M.A., M.B., Ch.B. (part time).
S. M. LAIRD, B.Sc., M.D., F.R.F.P.S., D.P.H., to August 31st.
N. S. TAYLOR, M.B., Ch.B., from October 7th.
RACHEL B. NELSON, M.B., Ch.B., D.P.H.
Six Medical Orderlies.
One Sister.
Two Nurses.

Infectious Disease Hospitals and Sanatoria.

Fazakerley Hospitals.

Medical Superintendent: A. E. HODGSON, M.D., Ch.B., D.P.H.
Senior Resident Medical Officers: E. A. BURNS, M.D., B.Ch., B.A.O.
L. DENIL, M.B., Ch.B., D.P.H.
Two Assistant Resident Medical Officers.

City Hospital, North.

Visiting Physician: E. A. BURNS, M.D., B.Ch., B.A.O.
Resident Medical Officer: A. B. CONCANON, M.B., Ch.M., M.R.C.S., L.R.C.P. (to July 31st.)
R. WHEELER, M.B., Ch.B., M.R.C.S., L.R.C.P. (from August 1st.)

City Hospital, South.

Visiting Physician: T. R. ROBERTON, M.B., Ch.B., D.P.H.
Resident Medical Officer: J. P. KELLY, M.B., B.Ch., B.A.O., D.P.H. (to August 31st.)
D. CAMPBELL, M.B., Ch.B. (September 1st to October 8th.)
E. W. EVANS, M.B., Ch.B. from October 10th.

City Hospital, East.

Visiting Physician: E. A. BURNS, M.D., B.Ch., B.A.O.
Resident Medical Officer: FRANCES WEIGHTMAN, M.B., Ch.B., D.P.H.

Fazakerley Sanatorium.

Medical Superintendent: W. CRANE, M.D., B.Ch., B.A.O., D.P.H.
Senior Resident Medical Officer: V. C. CORNWALL, M.B., Ch.B., M.R.C.S., L.R.C.P.
Radiologist: A. E. CONNOLLY, M.B., Ch.B., D.P.H., D.M.R.E.
Two Assistant Resident Medical Officers.

Broadgreen Sanatorium.

Medical Superintendent: O. F. THOMAS, M.R.C.P., D.P.H.
Senior Resident Medical Officer: R. P. BOWES, M.D., D.P.H.
Two Assistant Resident Medical Officers.

Cleaver Sanatorium.

Matron: Miss D. KELSALL.
Resident Medical Officer: N. O'LEARY, M.B., Ch.B. (to July 9th.)
JEAN S. TAYLOR, M.B., Ch.B. (from July 11th.)

General Hospitals.

Walton Hospital.

Manager: C. A. W. ROBERTS, M.B.E.
Medical Superintendent: H. H. MacWILLIAM, B.A., M.B., B.Ch., B.A.O., D.P.H.
Matron: Mrs M. M. ROBERTS, M.B.E.
Deputy Medical Superintendent:—A. MARTINEZ, M.D.
Senior Resident Assistant Medical Officers: J. MARTINEZ, M.D., F.R.C.S., B.S.
T. LENNON, M.D., D.C.O.G.
B. WILLIAMS, M.D., F.R.C.S., M.C.O.G.
Twelve Junior Resident Assistant Medical Officers (appointed for 1 year).

Mill Road Infirmary.

Medical Superintendent: L. FINDLAY, M.D.
Matron: Miss G. RIDING.
Deputy Medical Superintendent: H. B. BAGSHAW, M.A., F.R.C.S., L.R.C.P.
Senior Resident Assistant Medical Officer: A. HINDHAUGH, F.R.C.S.
Six Junior Resident Assistant Medical Officers (appointed for 1 year).

Smithdown Road Hospital.

Medical Superintendent: J. P. STEEL, M.D.
Matron: Miss R. M. DUNLOP.
Deputy Medical Superintendent: E. S. SMITH, M.D.
Senior Resident Assistant Medical Officers: G. CUTTLE, L.M.S.S.A., D.P.H.
E. W. LITTLE, M.B., Ch.B.
Six Junior Resident Assistant Medical Officers (appointed for 1 year).

Children's Hospitals.

Alder Hey Hospital.

Medical Superintendent: W. E. CROSBIE, M.B., B.S., B.A.O., D.P.H.
Matron: Miss M. CAVILL.
Deputy Medical Superintendent: E. C. R. COUPER, M.B., Ch.B., F.R.F.P.S.
Senior Resident Assistant Medical Officers: M. BABER, B.Sc., M.R.C.S., L.R.C.P.
M. WILLIAMS, M.B., Ch.B., B.Sc., M.R.C.P. (*Temp.*).
Six Junior Resident Assistant Medical Officers (appointed for 1 year).

Olive Mount Children's Hospital.

Matron: Miss A. B. HARDY.
Medical Superintendent: W. E. CROSBIE, M.B., B.S., B.A.O., D.P.H.
Resident Assistant Medical Officer: RITA HENRY, M.B., Ch.B., B.A.O.

Mixed Institutions.

Belmont Road Institution.

Master: G. CHAPLIN.
Matron: Mrs. A. CHAPLIN.
Visiting Medical Officer: D. G. HENRY, M.B., B.Ch.
One Assistant Medical Officer.

Kirkdale Homes.

Master: H. T. SALTER.
Matron: Mrs. D. SALTER.
Visiting Medical Officer: C. GODFREY, M.B., B.Ch., B.A.O.

Certified Institution for Mentally Defective Children.

Seafield House.

Superintendent: A. ARMITAGE.
Matron: Mrs. E. ARMITAGE.
Visiting Medical Officer: T. D. WILLIAMS, M.B., B.S.

Vaccination Officers.

No. 1 District: R. R. RENDELL.
No. 2 District: A. OLNEY.
No. 3 District: J. C. HOWARTH.
No. 4 District: H. O'HARE, Assistant Vaccination Officer.
Assistant Vaccination Officer: N. G. BARTLEY.

Sanitary Staff.

Chief Sanitary Inspector: G. BINNS, F.R.San.I., F.R.I.P.H.H.
Deputy Chief Sanitary Inspector: W. PARKER, M.S.I.A.
Chief Housing Inspector: C. E. SANDERSON, M.R.San.I. (to April 30th).
D. LUCAS, M.R.San.I. (from July 18th).
Three Divisional Inspectors.
One Senior Inspector of Lodging and Sub-let Houses.
One Senior Shops Inspector.
One Senior Factory Inspector.
Five Shops Inspectors.
Four Factory Inspectors.
One Bakehouse and Cafe Inspector.
Two Offensive Trades Inspectors.
Nine Housing Inspectors.
Forty-eight Sanitary Inspectors.
One Canal Boat Inspector.
Ten Ratcatchers.
One Motor-van Driver.

Smoke Inspectors.

Chief Smoke Inspector: C. M. OPIE, M.R.San.I.
Two Assistant Smoke Inspectors.

Food Inspection.

Chief Food Inspector: J. D. ALLAN, M.R.San.I., F.S.I.A.
Eleven Inspectors.
Chief Inspector Food and Drugs: A. GLEAVE, Cert.R.San.I.
Four Inspectors.
Two Inspectors of Dairies and Cowsheds.

Ambulance and Disinfecting Staff.

Superintendent: T. C. CAMPSIE.
Deputy Superintendent: H. WRIGHT.
Seven Disinfectors.
Seven Ambulance Orderlies.
Fourteen Ambulance and Bedding Van, &c., Drivers.
Forty-six Workmen.
Three Mortuary Attendants.

Chief Clerk: B. S. BENNETT.
Deputy Chief Clerk: F. G. GILLIES.

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E. Table of Notifiable Diseases other than Tuberculosis.
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Public Health Department,
Municipal Annexe,
Dale Street, Liverpool, 2.
27th May, 1939.

My Lord Mayor, Ladies and Gentlemen,

I have the honour to submit to you herewith my eighth Annual Report, relating to the health of the City of Liverpool during the year 1938.

I desire to acknowledge figures and information for inclusion in the Report from the Town Clerk, the City Treasurer, the City Engineer and Surveyor, the Water Engineer, the City Analyst, the City Bacteriologist, the City Building Surveyor, and the City Architect and Director of Housing. I am also indebted to the Chief Officers of the City Hospitals, Sanatoria and Institutions for reports and statistics received, as well as to the officers of the voluntary hospitals and various charitable institutions and others who have supplied valuable information for inclusion in the Report.

A perusal of the information from such diverse sources, scattered throughout the following pages, affords a good indication of the co-operation which exists between the Corporation's Public Health Department and the many other agencies, official and voluntary, in the City which affect, directly or indirectly, the health of the community and the individual.

Any survey of the health of a sanitary district such as is contained in the present Report should commence with a discussion of the total population in the area and the birth-rates and death-rates, since such figures prescribe the extent of the authority's Public Health activities and provide an indication of the major problems which require consideration. Commencing, therefore, with the salient vital statistics of the City we find that in 1938 the estimated mid-year population was 864,000, this figure being a slight reduction on that of the previous year. The natural increase of births over deaths was 5,537, but it is estimated that the migration of part of the population to the newly-erected houses situated outside the city boundary cancelled this increase.

The total number of births was 16,175, giving a birth-rate per 1,000 of the population of 18·7 as contrasted with a figure of 19·3 for the previous year. The total number of deaths from all causes was 10,638, giving a general death-rate of 12·3 as compared with 13·2 in 1937. Infantile mortality showed a rate of 73 per 1,000 births, as contrasted with the previous year's rate of 82.

Such are the salient vital statistics for the year 1938 which, from a statistical point of view, was noteworthy in many aspects. New low records for the city were recorded in the birth-rate, death-rate, infantile mortality rate and the maternal death-rate. The birth-rate of 18·7 per 1,000, though the lowest ever recorded, is still higher than that for England and Wales, which is 15·1 per 1,000. Eleven deaths occurred from puerperal fever as contrasted with ten in 1937, but the maternal mortality rate of 1·96 per 1,000 was the lowest ever recorded. There was a considerable decrease in the number of cases of infectious disease reported to the Health Department; 13,861 cases being reported in 1938 as against 17,083 in 1937, a reduction of 3,222 cases. This reduction was shared by the majority of the infectious diseases, measles showing the greatest reduction, namely, 1,102 cases, and scarlet fever 301 cases. A mild epidemic of influenza occurred in the last few weeks of the year, reached its peak in the second week of January, 1939, and then slowly declined.

There was a slight increase in the number of deaths recorded from cancer, namely, 1,344 as compared with 1,292 in 1937; this is equivalent to a death-rate of 1·55 per 1,000 of the population. The number of deaths from cancer has been increasing yearly and the death-rate from this disease has remained between 1·3 and 1·5 per 1,000 for the past five years. Cancer is now the second principal cause of death and, unless some means of prevention is discovered in the meantime, this position is likely to be maintained.

The work in connection with the demolition of insanitary property has progressed on the lines indicated in the report for 1933. During 1938 the Medical Officer of Health made official representations to the City Council in respect of 54 Clearance Areas containing 2,583 insanitary houses.

The Factories Act, 1937, which came into operation on July 1st, 1938, superseded the Factory and Workshop Act of 1901. This Act increases the duties of a local authority in regard to factories and also entails extra work on the part of the inspectorial staff of the sanitary department.

The Young Persons (Employment) Act, 1938, came into force on January 1st, 1939. This Act amends the Shops Act of 1934 with regard to the hours of employment of persons under the age of 16 and also regulates the hours of employment of persons under the age of 18 who are engaged in certain occupations which have hitherto been unregulated. A brief résumé of the principal clauses of this Act are given on page 198 in the section on sanitation.

The work of improving and modernising the municipal hospitals has been continued throughout the year. The appropriation of the four transferred general hospitals under the Public Health Acts was completed by the appropriation of Smithdown Road Hospital on April 1st, 1938. As mentioned in previous annual reports, the building of continuation departments to the general municipal hospitals was urgently needed to relieve the pressure on the wards and to allow for a greater turn-over of the hospital beds. The continuation department at Mill Road Infirmary was completed during the year and plans have been prepared for the erection of a similar department at Walton Hospital. At Fazakerley Sanatorium the building of a new treatment block, which was commenced in 1937, was completed. This new block has been erected for the modern surgical treatment of thoracic disease and, as the X-ray apparatus is also contained in this building, advantage was taken to render it shock-proof.

All the laundries attached to the municipal hospitals and institutions have been modernised with the exception of that at Belmont Road Institution. Plans have been prepared for the extension of this laundry but they are at present being held up as the boiler and heating services of the institution are inefficient and antiquated. A scheme for the modernising of these services has been drawn up and submitted to the Ministry of Health.

Increasing use is being made of the ancillary services connected with the hospitals. During the year 58,442 radiological and 107,535 pathological examinations were made, an increase of 1,361 and 15,234 respectively, compared with the corresponding figures for the previous year.

A perusal of the pages of the present Report will suffice to indicate the large amount of work performed yearly by the Corporation's health services. The volume of work here described could not have reached its present standard of usefulness were it not for the high ideals of duty which animate the medical, inspectorial, nursing and clerical staffs of the Department, and I wish to acknowledge, in cordial terms, my great appreciation for their co-operation with me during the past year.

I would also like to be permitted to express my warm thanks to the Chairmen and members of the Corporation Committees concerned with the Public Health Department for the courtesy and kindness with which they have considered the various suggestions and recommendations made to them.

I am,

Your obedient Servant,

W. M. FRAZER,

Medical Officer of Health.

VITAL STATISTICS.

CITY OF LIVERPOOL.

SUMMARY

OF

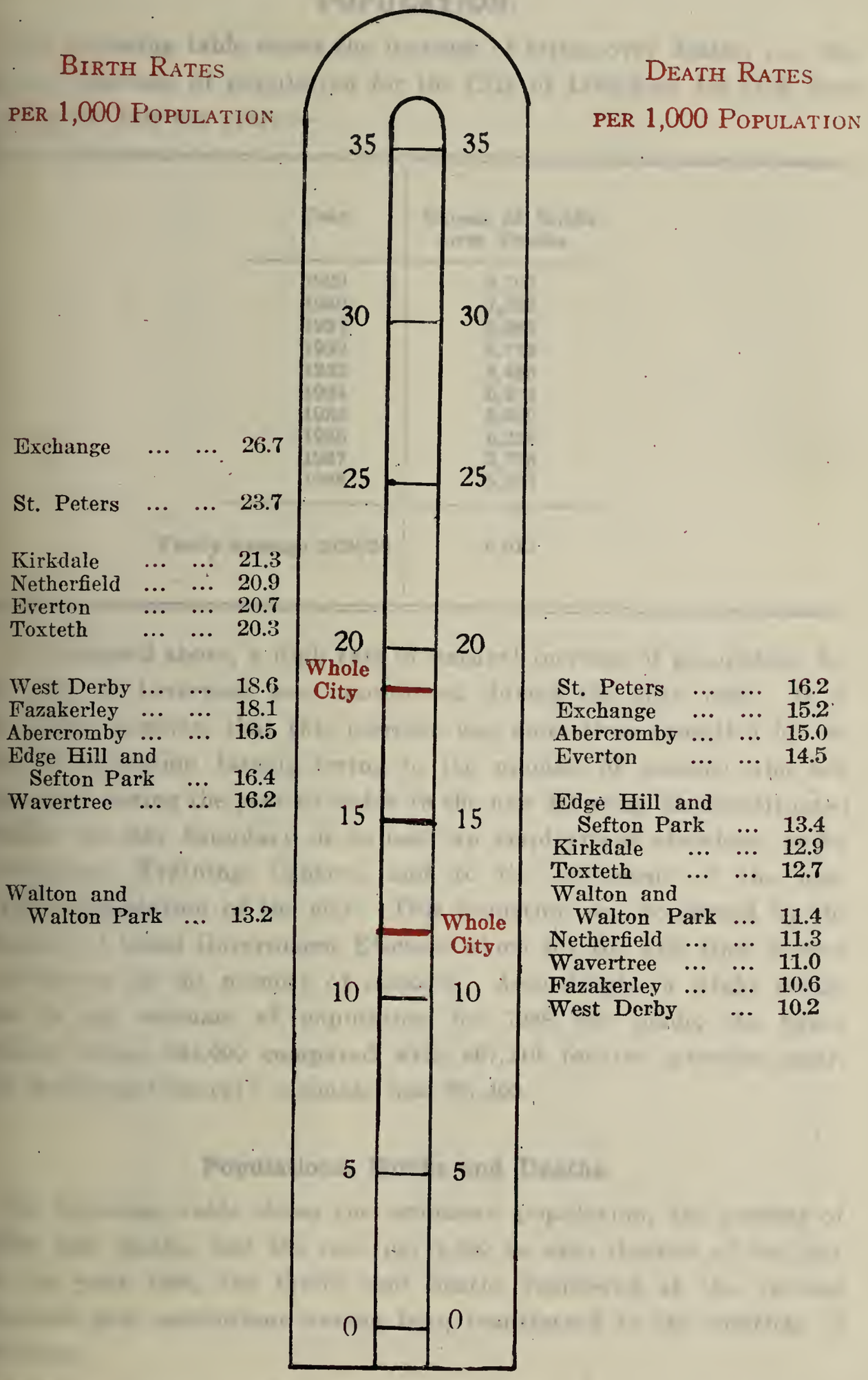
VITAL STATISTICS FOR 1938.

Area (land and inland water) ... ...27,321 Acres (43 sq. miles)	
Population (Census 1931)	855,688
do. (estimated to middle of Year, 1938)	864,000

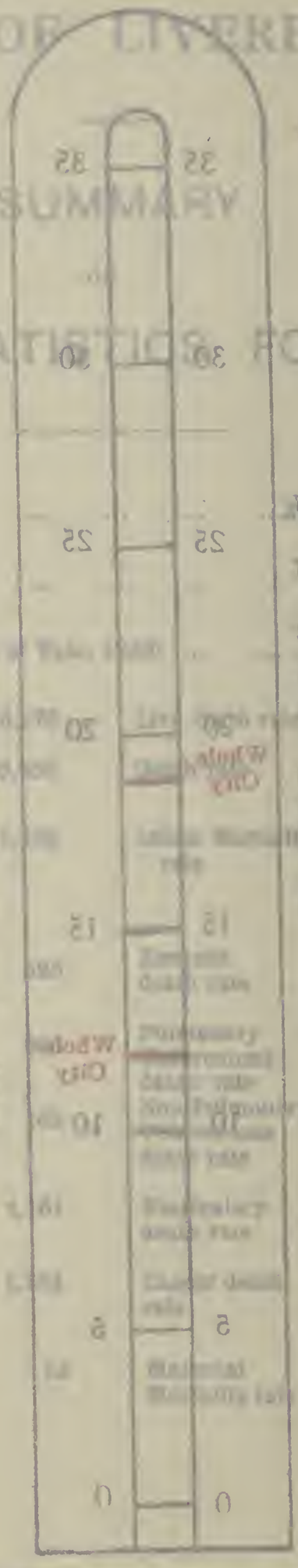
Live Births...	16,175	Live Birth rate	18·7	per 1,000 of the population
Deaths (all causes) ...	10,638	Death rate	12·3	
Do. (under 1 year of age)	1,189	Infant Mortality rate	73 per 1,000 live births,	
Do. from :—				
Seven principal Zymotic diseases	528	Zymotic death rate	0·61	per 1,000 of the population
Pulmonary Tuberculosis	666	Pulmonary Tuberculosis death rate	0·77	
Other forms of Tuberculosis	103	Non Pulmonary Tuberculosis death rate	0·12	
Respiratory diseases	1,161	Respiratory death rate	1·34	
Cancer	1,344	Cancer death rate	1·55	
Maternal Deaths	33	Maternal Mortality rate	1·96 per 1,000 live and still births.	

CITY OF LIVERPOOL.

COMPARATIVE VIEW OF THE BIRTH AND DEATH RATES PER 1,000 POPULATION IN THE DIFFERENT DISTRICTS OF THE CITY DURING THE YEAR 1938.



DEATHS IN PUBLIC INSTITUTIONS ARE TRANSFERRED TO THE DISTRICTS FROM WHICH THE PATIENTS CAME.


35
25
20
15
10
5
0
Whole City

POPULATION.

The following table shows the increase of births over deaths, i.e., the natural increase of population for the City of Liverpool for each year during the last ten years:—

Year.	Excess of Births over Deaths.
1929	5,707
1930	7,593
1931	6,383
1932	6,779
1933	4,485
1934	6,274
1935	5,900
1936	6,220
1937	5,276
1938	5,537
Yearly Average 1929/38	6,015

As indicated above, a high rate of natural increase of population for the City of Liverpool was maintained during the year 1938. It is estimated, however, that this increase was more than cancelled by the rate of migration largely owing to the number of persons who left Liverpool during the year to reside in the new Housing Estates situated outside the city boundary or to take up employment elsewhere under Government Training Centres, and to the movement of the non-civilian population of the city. This reduction was confirmed by the Register of Local Government Electors which for the first time showed a reduction in the number of electors. Accordingly, a slight reduction in the estimate of population for 1938 was made, the figure adopted being 864,000 compared with 867,110 for the previous year. The Registrar-General's estimate was 827,400.

Populations, Births and Deaths.

The following table shows the estimated population, the number of births and deaths, and the rate per 1,000 in each district of the city for the year 1938, the births and deaths registered at the various hospitals and institutions having been transferred to the districts of residence.

Registration Sub-Districts.	Acreage (Land and Inland Water.)	Estimated Mid-Year Population 1938.	Persons per Acre.	Births.		Deaths.	
				Number of Births.	Rate per 1,000.	Number of Deaths.	Rate per 1,000.
EXCHANGE ...	843	47,413	56	1,266	26·7	722	15·2
ABERCROMBY ...	266	23,188	87	383	16·5	347	15·0
ST. PETER'S ...	994	50,739	51	1,204	23·7	820	16·2
TOXTETH PARK	1,647	90,308	55	1,834	20·3	1,149	12·7
EDGE HILL & SEFTON PARK	1,468	111,093	76	1,824	16·4	1,493	13·4
WAVERTREE ...	10,336	108,717	11	1,758	16·2	1,198	11·0
FAZAKERLEY ...	5,263	72,225	14	1,310	18·1	765	10·6
WALTON & WALTON PARK	1,904	91,666	48	1,211	13·2	1,044	11·4
KIRKDALE ...	929	59,304	64	1,212	21·3	769	12·9
NETHERFIELD	486	71,975	148	1,506	20·9	813	11·3
EVERTON ...	207	28,223	136	584	20·7	410	14·5
WEST DERBY ...	2,978	109,149	37	2,033	18·6	1,108	10·2
	27,321	864,000	32	16,175	18·7	10,638	12·3

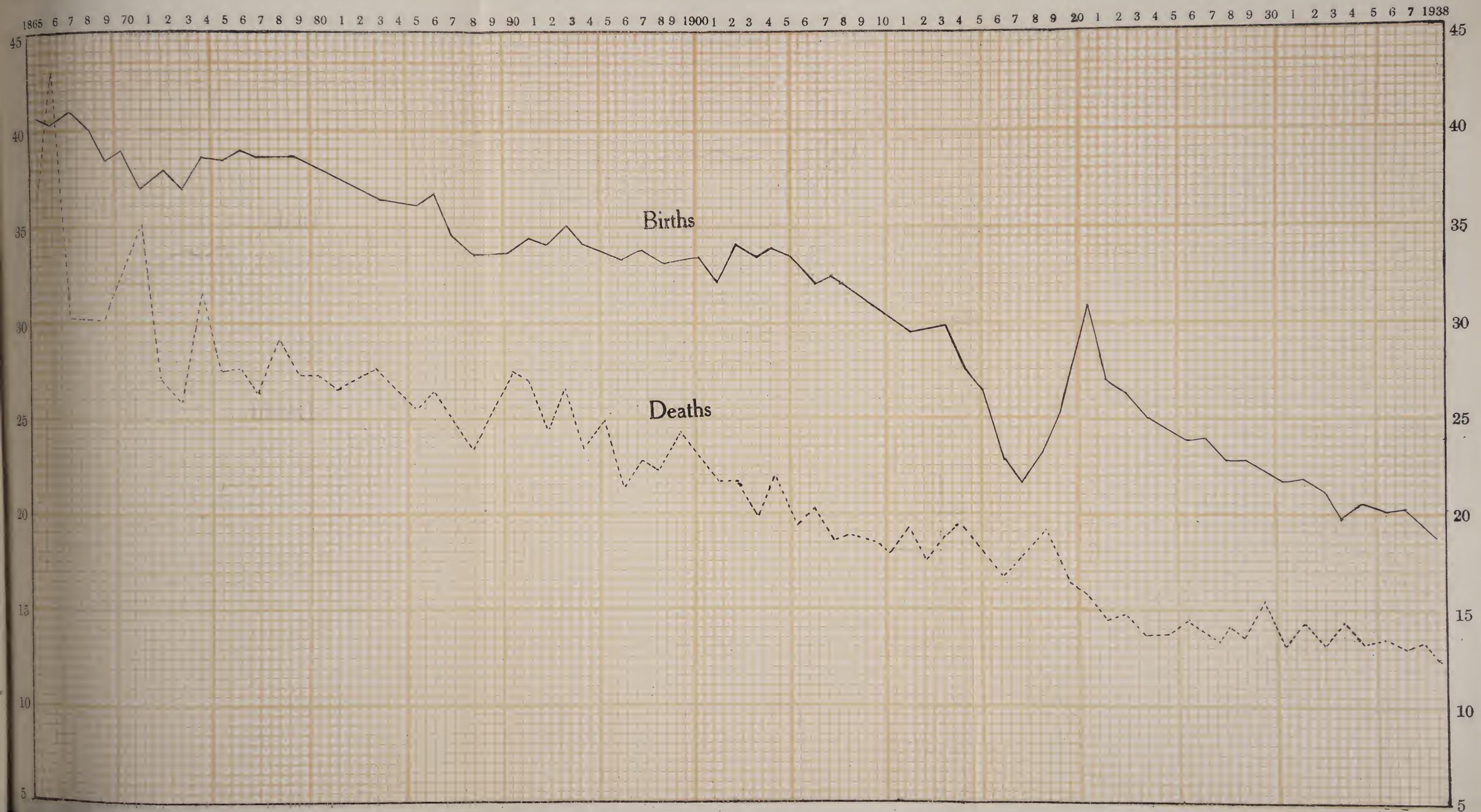
The following table shows the population, births and deaths, with birth and death rates, during the last 20 years (1919 to 1938):—

Year.	Estimated Mid-Year Population.	No. of Births.	Birth Rate per 1,000 of Population.	No. of Deaths.	Death Rate per 1,000 of Population.
1919	804,316	18,694	23·2	13,283	16·5
1920	810,632	25,039	30·9	12,852	15·8
1921	817,000	21,904	26·8	11,666	14·3
1922	820,663	21,467	26·1	11,992	14·6
1923	824,342	20,695	25·1	11,405	13·8
1924	828,038	20,559	24·8	11,390	13·7
1925	831,750	19,592	23·6	11,902	14·3
1926	835,479	19,792	23·7	11,626	13·9
1927	839,223	19,020	22·7	11,874	14·1
1928*	845,093	19,120	22·6	11,432	13·5
1929	848,873	18,888	22·2	13,181	15·5
1930	852,669	18,881	22·1	11,288	13·2
1931	856,483	18,626	21·7	12,243	14·3
1932*	861,935	18,149	21·0	11,370	13·2
1933	866,013	16,929	19·5	12,444	14·4
1934	866,013	17,593	20·3	11,319	13·1
1935	867,110	17,347	20·0	11,447	13·2
1936	867,110	17,403	20·1	11,183	12·9
1937	867,110	16,728	19·3	11,452	13·2
1938	864,000	16,175	18·7	10,638	12·3

* City area extended

CITY OF LIVERPOOL.

Birth and Death Rates per 1000 Population for the Years 1865 to 1938.



Births
Deaths

BIRTHS.

The number of live births recorded during the year 1938 was 16,175, equal to a rate of 18·7 per 1,000 of the population, this being the lowest birth-rate recorded for the city. The average of the previous five years (1933-1937) was 19·8. Of the total births, 8,292 were males, and 7,883 were females. The number of illegitimate live births was 771 or 4·6 per cent. of the total births, 386 being males and 385 females.

The birth-rate calculated upon the Registrar-General's estimate of population was 19·5 per 1,000.

The birth rate in the City of Liverpool was considerably above the average of the great towns, which was 15·0 per 1,000 of the population, as well as of England and Wales taken as a whole, where the rate was 15·1 per 1,000.

The number of still-births registered was 639 as shown in the following table. This represented 38·0 per thousand of the total (live and still) births registered and 0·74 per 1,000 of the estimated population.

Live Births.

	Males.	Females.	Total.
Legitimate	7,906	7,498	15,404
Illegitimate	386	385	771
	8,292	7,883	16,175

Still-Births.

	Males.	Females.	Total.
Legitimate	336	266	602
Illegitimate	20	17	37
	356	283	639

DEATHS.

The total deaths registered in the city during the year numbered 11,591. Of these deaths 1,287 were those of non-residents, chiefly occurring in public institutions, nursing homes, etc., and these were excluded from the returns. On the other hand, the deaths of 334 Liverpool residents which occurred in other districts and in the County Mental Hospitals, etc., were included in the returns for the year.

This gave a corrected number of deaths of 10,638, being 5,613 males and 5,025 females for the year, equal to a death rate of 12·3 per 1,000 of the population. This was the lowest death rate recorded for the city. The death rate for England and Wales was 11·6 and that of the great towns was 11·7.

The death rate for Liverpool calculated on the Registrar-General's estimate of population was 12·8.

The adjusted death rate for Liverpool, i.e., the crude death rate modified by the A.C.F. (areal comparability factor) was 14·1.

During the five years (1911-1915) the average death rate was 18·6 per 1,000, whilst during the five years (1934-1938) the average rate was 12·9 per 1,000.

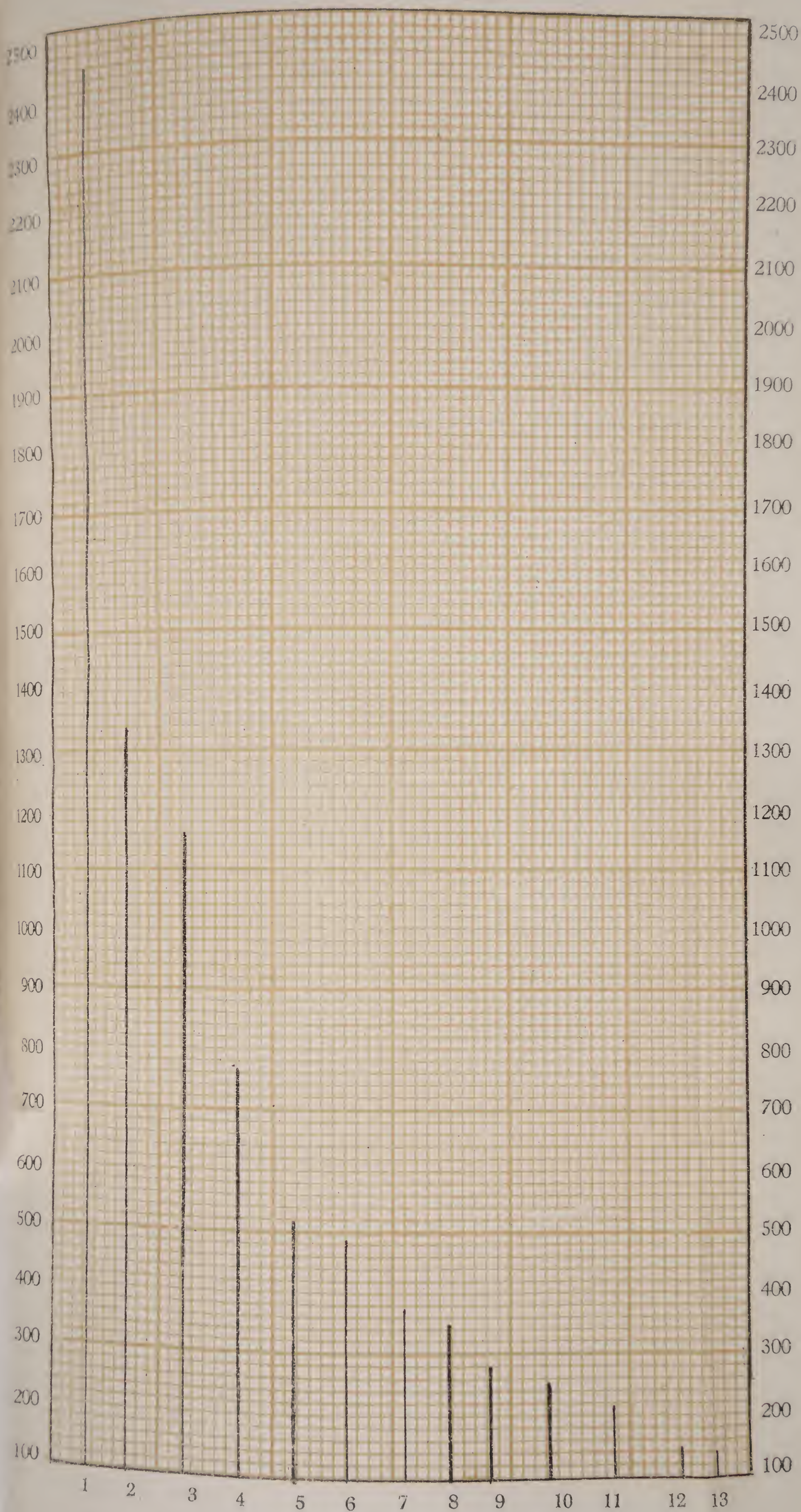
A comparison of the table on page 12 with previous reports will show that this improvement is not confined to the infant mortality nor to the mortality at any particular age, but is a general improvement affecting the whole of the population. It is plain that any variation in the *proportions* living at the respective age-periods would affect the death rate, and this with absolutely no change whatever in the condition of municipal sanitation. These proportions, however, vary very slowly and very slightly year by year in each district, so that yearly comparisons of the mortality rate of the same district may be fairly made, but one district should not be put into comparison with another unless the age and sex conditions of each are known, and the necessary corrections made.

Causes of Death.

The Short List of Causes of Death appears in Appendix C. Fuller details as to the causes of death are set out in Appendix F; in the same table the various age periods at which deaths took place and the districts in which they occurred will also be found.

CITY OF LIVERPOOL

COMPARATIVE VIEW OF THE PRINCIPAL CAUSES OF DEATH DURING THE YEAR 1938.



The following table gives a classification of the causes of death during the four quarters of the year, shown under the 18 classes of the International List, and the number of deaths at various age-groups:

CLASSES.		Quarters.				Year 1938
		March	June	Sept.	Dec.	
All Causes		3,274	2,639	2,131	2,594	10,638
I.	Infectious and Parasitic Diseases ...	536	348	241	261	1,386
II.	Cancer and Other Tumours	386	323	336	356	1,401
III.	Rheumatism and other Gen. Diseases	72	71	60	58	261
IV.	Diseases of the Blood	24	19	23	24	90
V.	Chronic Poisoning	—	1	2	1	4
VI.	Diseases of the Nervous System ...	245	218	158	186	807
VII.	Diseases of the Circulatory System ...	952	753	662	866	3,233
VIII.	Diseases of the Respiratory System ...	429	293	159	280	1,161
IX.	Diseases of the Digestive System ...	136	123	122	146	527
X.	Diseases of the Genito-Urinary System	132	142	97	125	496
XI.	Diseases of Pregnancy	10	9	12	2	33
XII.	Diseases of the Skin	15	16	11	13	55
XIII.	Diseases of the Bones	7	6	5	3	21
XIV.	Congenital Malformations	24	27	20	14	85
XV.	Diseases of Early Infancy	118	114	96	103	431
XVI.	Old Age	79	76	45	55	255
XVII.	Deaths from Violence	105	96	80	100	381
XVIII.	Ill-defined Diseases	4	4	2	1	11
Ages at Death	Under 1 year	382	313	222	272	1,189
	1—	247	122	54	85	508
	5—	63	39	24	24	150
	10—	43	22	27	25	117
	15—	55	56	45	37	193
	20—	64	63	44	60	231
	25—	303	282	224	235	1,044
	45—	852	702	584	680	2,818
	65—	1,265	1,040	907	1,176	4,388

The following tables give Comparative Statements of Vital Statistics during the years 1934, 1935, 1936, 1937 and 1938:—

BIRTHS.

	Births.					Birth Rates per 1,000 population.				
	1934	1935	1936	1937	1938	1934	1935	1936	1937	1938
1st quarter ...	4,831	4,490	4,546	4,610	4,569	22·3	20·7	21·0	21·3	21·1
2nd „ ...	4,760	4,651	4,694	4,830	4,511	22·0	21·5	21·6	22·2	28·9
3rd „ ...	4,586	4,567	4,524	4,517	4,313	21·2	21·1	20·9	20·8	20·0
4th „ ...	4,118	4,303	4,644	4,100	4,143	19·0	19·8	21·4	18·9	19·2
	18,295	18,011	18,408	18,057	17,536					
Corrected for transfers per Registrar Gen.	17,593	17,347	17,403	16,728	16,175	20·3	20·0	20·1	19·3	18·7

DEATHS.

	Deaths					Death Rates per 1,000 population.				
	1934	1935	1936	1937	1938	1934	1935	1936	1937	1938
1st quarter ...	3,455	3,189	3,461	3,805	3,274	15·9	14·7	16·0	17·5	15·2
2nd „ ...	2,944	2,701	2,677	2,559	2,639	13·6	12·5	12·3	11·8	12·2
3rd „ ...	2,271	2,325	2,160	2,125	2,131	10·5	10·7	10·0	9·8	9·9
4th „ ...	2,649	3,232	2,885	2,963	2,594	12·2	14·9	13·3	13·7	12·0
	11,319	11,447	11,183	11,452	10,638	13·1	13·2	12·9	13·2	12·3

DEATHS OF INFANTS UNDER 1 YEAR OF AGE.

	Deaths.					Death Rates per 1,000 births registered.				
	1934	1935	1936	1937	1938	1934	1935	1936	1937	1938
1st quarter ...	412	309	413	423	382	85	69	91	92	84
2nd „ ...	362	297	318	329	313	76	64	68	61	69
3rd „ ...	298	346	263	263	222	65	76	58	58	51
4th „ ...	346	493	317	356	272	84	116	68	87	65
	1,418	1,445	1,311	1,371	1,189	81	83	75	82	73

The following table shows deaths at various age periods, expressed as a percentage of total deaths, for each year 1915 to 1938:—

Year	Under 5 years.	At Ages—Years. 5—	10—	20—	30—	40—	50—	60—	70—	80—	
	%	%	%	%	%	%	%	%	%	%	
1915 ...	33	2	4	4	7	9	12	13	12	4	100
1916 ...	30	3	4	5	6	9	12	14	13	4	100
1917 ...	29	3	4	5	7	9	12	14	13	4	100
1918 ...	29	5	6	8	8	9	11	12	9	3	100
1919 ...	25	4	5	7	8	9	12	13	13	4	100
1915-1919 (average)	29	3	5	6	7	9	12	13	12	4	100
1920 ...	33	2	4	5	7	9	11	13	12	4	100
1921 ...	33	2	4	5	6	9	11	13	12	5	100
1922 ...	28	2	4	5	6	9	12	15	14	5	100
1923 ...	30	2	4	5	6	9	12	14	13	5	100
1924 ...	29	2	4	4	6	8	12	15	15	5	100
1920-1924 (average)	30	2	4	5	6	9	12	14	13	5	100
1925 ...	28	2	4	4	5	9	12	15	15	6	100
1926 ...	28	2	3	5	6	9	12	15	14	6	100
1927 ...	25	2	3	5	5	9	12	16	16	7	100
1928 ...	25	2	4	5	5	9	12	16	16	6	100
1929 ...	23	3	3	5	5	9	12	16	17	7	100
1925-1929 (average)	26	2	3	5	5	9	12	16	16	6	100
1930 ...	20	3	4	5	5	9	14	17	16	7	100
1931 ...	23	2	3	5	5	8	12	17	18	7	100
1932 ...	22	2	3	5	5	8	13	17	17	8	100
1933 ...	21	2	3	5	5	8	13	17	18	8	100
1934 ...	20	2	3	5	6	8	12	18	18	8	100
1930-1934 (average)	21	2	3	5	5	8	13	17	18	8	100
1935 ...	17	2	3	5	5	8	13	19	20	8	100
1936 ...	16	2	3	5	5	7	14	19	21	8	100
1937 ...	17	2	2	5	5	7	13	19	21	9	100
1938 ...	16	1	3	4	5	7	13	20	22	9	100

Analysis of Decline in Mortality.

The accompanying tables (pages 12-13) show the deaths that have occurred in the city of Liverpool during the past 68 years. These have been separated into five principal classes of disease which are likely to be affected by the activities of the Health and other Municipal Departments, namely, infective diseases, tubercular diseases, respiratory diseases (including influenza), and digestive diseases (including diarrhœa and enteritis). These classes include the greater part of the diseases of infective origin. The deaths from cancer are placed in a separate column.

Despite the very great increase in population since 1871, the population having nearly doubled since then, the actual numbers of deaths per annum have fallen from an average of 14,700 in the decennium 1871-1880 to 10,638 in the year 1938. The general death rate has fallen from 28·5 to 12·3 per thousand, a fall of 59 per cent.

The greatest proportional decline has been experienced in the group of infective diseases, which includes all the infectious diseases with the exception of influenza; the decline has been steady and uniform, and the deaths now registered in this group exhibit a decline of no less than 88·5 per cent during the 68 years.

A similar steady decline has been shown by the tubercular diseases, which have fallen to 25·0 per cent. of the earlier figure. These deaths still account for 7·2 per cent. of the total.

In the group of respiratory diseases, although there has been a reduction in the death rate of 75 per cent., during the period under review, namely, between 1871-1880 and 1938, the decline has not been continuous; rises occurred in 1881-90 and in 1911-20, and again in 1929 and 1933, due in all cases to the prevalence of influenza. Although a

marked decline in respiratory deaths has occurred, this decline is not commensurate with that recorded in deaths from all causes.

Digestive diseases, of which diarrhœa and other digestive diseases of infants form the most important section, showed at first a slight decline from 1871 to 1890; in 1891-1900 there was a rise to 107 per cent. of the rate experienced in 1871-80, taking the latter rate as equal to 100. From that time on there has been a most marked and rapid decline to 21·4 per cent. of the 1871-80 rate of mortality. This decline coincides in time with the great efforts that have been put forward in this city for the prevention of infantile mortality.

In contrast, however, there has been a considerable increase in the deaths from cancer during the past 68 years (see pages 12 and 13). The rate of mortality is now nearly four times as high as in the seventies of last century. This increase is, however, mainly due to the increasing longevity of the people and to the better diagnosis of the disease. The increasing proportion of persons dying in later life is well shown in the table on page 9, from which it will be seen that since 1915 the proportion of deaths at ages 70 and over has increased from 16 to 31 per cent.

If the general rate of mortality experienced in 1871-80 had prevailed during the year 1938, there would have been more than twice as many deaths as those actually recorded, viz., 24,649 instead of 10,638, a saving of 14,011 lives being thereby effected.

Deaths from certain Groups of Diseases in each decade from 1871 to 1930, and during 1931, 1932, 1933, 1934, 1935, 1936, 1937 and 1938.

Years.	(a) Infective diseases (less Diarrhœa and Influenza).	(b) Tubercular diseases.	(c) Respiratory diseases (including Influenza).	(d) Digestive diseases (including Diarrhœa).	Total Deaths from Classes (a), (b),(c) & (d)	(e) Cancer.	Total Deaths from all causes.
1871-1880	27,205	19,869	29,763	14,747	91,584	2,015	147,005
1881-1890	19,748	17,870	32,507	13,186	86,311	2,820	146,195
1891-1900	13,515	16,714	35,819	18,491	84,539	4,223	145,522
1901-1910	13,967	16,054	32,995	18,163	81,179	6,480	150,962
1911-1920	10,417	14,946	36,480	12,282	74,125	7,603	137,223
1921-1930	7,831	12,664	29,447	8,184	58,126	9,852	117,756
1931	947	1,153	2,742	658	5,500	1,128	12,243
1932	826	1,139	1,905	654	4,524	1,167	11,370
1933	808	1,157	2,466	729	5,160	1,232	12,444
1934	780	996	1,792	563	4,131	1,276	11,319
1935	560	935	1,879	654	4,028	1,311	11,447
1936	614	839	1,489	547	3,489	1,301	11,183
1937	578	796	1,819	589	3,782	1,292	11,452
1938	543	769	1,235	527	3,074	1,344	10,638

Deaths expressed as a percentage of total deaths from all causes (Proportionate Mortality).

1871-1880	19·2	13·5	20·2	10·0	62·9	1·4	100·0
1881-1890	14·1	12·7	23·2	9·4	59·4	2·0	100·0
1891-1900	9·3	10·8	24·6	12·7	57·4	2·9	100·0
1901-1910	8·6	10·6	21·8	12·0	53·0	4·3	100·0
1911-1920	7·9	10·9	27·3	8·9	55·0	5·5	100·0
1921-1930	6·6	10·7	25·0	6·9	49·4	8·4	100·0
1931	7·7	9·4	22·4	5·4	44·9	9·2	100·0
1932	7·3	10·0	16·7	5·7	39·7	10·3	100·0
1933	6·5	9·3	19·8	5·9	41·5	9·9	100·0
1934	6·9	8·8	15·8	5·0	36·5	11·3	100·0
1935	4·9	8·2	16·4	5·7	35·2	11·5	100·0
1936	5·5	7·5	13·3	4·9	31·2	11·6	100·0
1937	5·0	6·9	15·9	5·1	33·0	11·3	100·0
1938	5·1	7·2	11·6	4·9	28·8	12·6	100·0

Years.	(a) Infective diseases (less Diarrhœa and Influenza).	(b) Tubercular diseases.	(c) Respiratory diseases (including Influenza).	(d) Digestive diseases (including Diarrhœa).	Total Deaths from Classes (a), (b), (c) & (d)	(e) Cancer.	Total Deaths from all causes.
1871-1880	5·2	3·6	5·7	2·8	17·3	0·4	28·5
1881-1890	3·6	3·2	5·9	2·4	15·1	0·5	26·1
1891-1900	2·2	2·7	5·9	3·0	13·8	0·7	23·9
1901-1910	1·9	2·2	4·5	2·5	11·1	0·9	20·0
1911-1920	1·3	1·9	4·7	1·6	9·5	1·0	18·1
1921-1930	0·9	1·4	3·3	0·9	6·5	1·1	13·6
1931	1·1	1·3	2·8	0·8	6·0	1·3	14·3
1932	0·9	1·3	2·2	0·7	5·1	1·3	13·2
1933	0·9	1·3	2·8	0·8	5·8	1·4	14·4
1934	0·9	1·1	2·1	0·6	4·7	1·5	13·1
1935	0·7	1·1	2·2	0·7	4·7	1·5	13·2
1936	0·7	1·0	1·7	0·6	4·0	1·5	12·9
1937	0·7	0·9	2·1	0·7	4·4	1·5	13·2
1938	0·6	0·9	1·4	0·6	3·5	1·5	12·3

Death-Rates expressed as a percentage of the rates experienced in 1871-1880 (Index Numbers).

1871-1880	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1881-1890	69·0	88·0	104·0	85·7	89·1	125·0	91·0
1891-1900	42·0	75·0	104·0	107·2	79·3	175·0	84·0
1901-1910	36·0	61·0	79·0	89·3	64·3	225·0	70·0
1911-1920	26·0	50·0	83·0	56·7	56·0	250·0	67·0
1921-1930	17·1	40·0	58·8	36·8	38·5	280·0	47·7
1931	21·2	36·1	49·1	28·6	36·7	325·0	50·0
1932	19·2	36·1	38·6	25·0	29·9	325·0	46·3
1933	17·3	36·1	49·1	28·6	33·9	350·0	50·5
1934	17·3	30·5	36·8	21·4	27·2	375·0	46·0
1935	13·5	30·5	38·6	25·0	27·2	375·0	46·3
1936	13·5	27·8	29·8	21·4	23·1	375·0	45·3
1937	13·5	25·0	36·8	25·0	25·4	375·0	46·3
1938	11·5	25·0	24·6	21·4	20·2	375·0	43·1

Table showing the Annual Rate of Mortality per 1,000 and the total number of deaths at each of Twelve Age-Periods during the year 1938 in Liverpool.

1938.	Under 1 year.	At Ages 1—	2—	5—	10—	20—	30—	40—	50—	60—	70—	80—	All Ages.
Rate of Mortality per 1,000 living at ages indicated	*73	15·2	5·1	1·8	2·0	2·9	4·3	7·3	16·2	40·8	100·2	229·8	12·3
Total Number of Deaths at each Age-Period ...	1189	256	252	150	310	438	522	771	1404	2101	2309	936	10638
Approximate Population	17258	16823	49168	84930	157717	147970	120460	105343	86783	51425	22050	4073	864000

* Column I. indicates the rate of mortality under one year per 1,000 births during the year.

Deaths in Public Institutions.

In Liverpool the number of deaths which take place in Public Institutions is large—indeed more than half the total. This tends to show the proportion of people who in times of sickness have recourse to public and charitable institutions in the city, and no doubt also suggests that the institutions have a wide reputation and attract sufferers not only from within the city, but from a distance, as shown by the number of non-resident deaths.

The deaths in institutions during the year numbered 7,263, and included 1,287 persons who were non-residents in the city area. The number of deaths in the various institutions is shown in the following table:—

	Total Deaths.	Deaths of non-residents.
Walton Hospital	1,945	458
Belmont Road Institution	682	54
Smithdown Road Hospital	1,160	29
Mill Road Infirmary	779	10
Alder Hey Hospital	641	88
Kirkdale Homes	190	25
Olive Mount Children's Hospital ...	64	6
Royal Infirmary	326	151
David Lewis Northern Hospital ...	185	71
Royal Southern Hospital	176	54
The Liverpool Stanley Hospital ...	76	25
Liverpool Maternity Hospital ...	66	25
Royal Liverpool Children's Hospital	219	56
Consumption Hospital	28	21
Liverpool Hahnemann Hospital ...	14	3
The Women's Hospital	18	13
Carried forward ...	6.569	1,089

	Total Deaths.	Deaths of non-residents.
Brought forward ...	6.569	1,089
Eye and Ear Infirmary	19	9
Garston Hospital	28	1
City Hospital North	23	2
do. South	18	—
do. East	31	1
do. Fazakerley	105	12
do. do. Annexe ...	23	2
do. Sparrow Hall ...	1	—
Sanatorium, Fazakerley	73	2
do. Broadgreen	105	—
St. Joseph's Home	35	2
Cancer and Skin Hospital	22	16
Turner Memorial Home	5	1
St. Augustine's Home	36	3
Other Institutions, Nursing Homes, etc.	170	147
	7,263	1,287

Of the above deaths, 5,461 took place in the transferred institutions, 1,155 in voluntary hospitals, 379 in city hospitals, and 268 in other institutions.

The following table shows the total number of deaths in public institutions during the years 1932 to 1938:—

1932.	1933.	1934.	1935.	1936.	1937.	1938.
6,858	7,461	6,987	7,458	7,401	7,661	7,268

Infant Mortality.

The following table shows the deaths and death-rates of infants under one year of age for the year 1938:—

	Infant Deaths.	Infant Death Rates.
All Infants	1,189	73 per 1,000 live births.
Legitimate Infants ...	1,109	79 ,, legitimate live births.
Illegitimate Infants ...	80	104 ,, illegitimate live births.

The infant mortality rate for 1938 was 73 per 1,000 births, which was the lowest recorded for the city. Reference to the table on page 18 will show that the rate, in spite of fluctuations in individual years, has steadily declined during the past thirty-eight years. At the beginning of this period the figure was nearly 200 deaths per 1,000 births.

The infantile mortality rate in 1938 was less than one-half the rate in the first years of the present century.

It may be noted that the numbers of deaths from all the usual forms of infantile diseases such as broncho-pneumonia, convulsions, prematurity, etc., have been reduced, but the most markedly affected cause is the one which, in former years, frequently proved the most fatal, namely, epidemic diarrhœa. The number of deaths under one year of age from this cause in the year 1938 was 114 as against an average of 1,000, or 1,100 thirty years ago. No doubt this result is due to a variety of causes, but one which has most materially hastened the decline is the initiation and carrying on by the Maternity and Child Welfare Committee of schemes for the promotion of the welfare of motherhood and infancy, including the work of the health visitors, pre-maternity and infant clinics and milk depots, and the measures taken to prevent the breeding of flies.

The following table shows the number of deaths of infants below one year of age and the rate per 1,000 births during the last thirty-nine years :—

Year.	No. of deaths below one year of age.	Rate per 1,000 births.	Average for 10 years
1900	4,247	186	164
1901	4,138	187	
1902	3,936	162	
1903	3,815	159	
1904	4,780	196	
1905	3,752	154	
1906	4,137	171	
1907	3,383	143	
1908	3,355	140	
1909	3,377	143	
1910	3,216	139	129
1911	3,466	154	
1912	2,778	125	
1913	2,987	132	
1914	3,219	139	
1915	2,866	133	
1916	2,421	117	
1917	2,071	115	
1918	2,137	124	
1919	2,055	110	
1920	2,826	113	100
1921	2,339	107	
1922	2,052	96	
1923	2,058	99	
1924	2,113	103	
1925	1,935	99	
1926	2,066	104	
1927	1,781	94	
1928	1,789	94	
1929	1,822	96	
1930	1,544	82	
1931	1,740	93	
1932	1,646	91	
1933	1,655	98	
1934	1,418	81	
1935	1,445	83	
1936	1,311	75	
1937	1,371	82	
1938	1,189	73	

CITY OF LIVERPOOL.

INFANT MORTALITY PER 1,000 BIRTHS, 1895-1938.

The relation which the deaths of infants under one year of age has borne to every thousand births in the various districts of the city during the year 1938 is shown in the following table. The detailed causes of death are set out in Appendix D.

DISTRICTS.	Number of births. 1938.	Number of deaths under 1 year of age. 1938.	Deaths under 1 year per 1000 births. 1938.
Exchange	1,266	106	84
Abercromby	383	50	131
St. Peter's.....	1,204	121	100
Toxteth Park	1,834	135	74
Edge Hill & Sefton Park	1,824	135	74
Wavertree	1,758	98	56
Fazakerley	1,310	97	74
Walton & Walton Park	1,211	91	75
Kirkdale	1,262	91	72
Netherfield	1,506	110	73
Everton	584	51	87
West Derby	2,033	104	51
City	16,175	1,189	73

The table on page 21 provides an analysis of the principal causes of infantile mortality for successive periods of five years from 1896-1900 onwards. It is divided into three sections, the first giving the *actual number* of births and of deaths under 1 year of age, both the total deaths and the numbers of deaths from seven main categories of disease, which include almost all the deaths; the second section gives the birth rate and the deaths expressed as rates per 1,000 births, and the third section gives these rates as a percentage of the rates recorded in 1896-1900, such percentages being termed index figures.

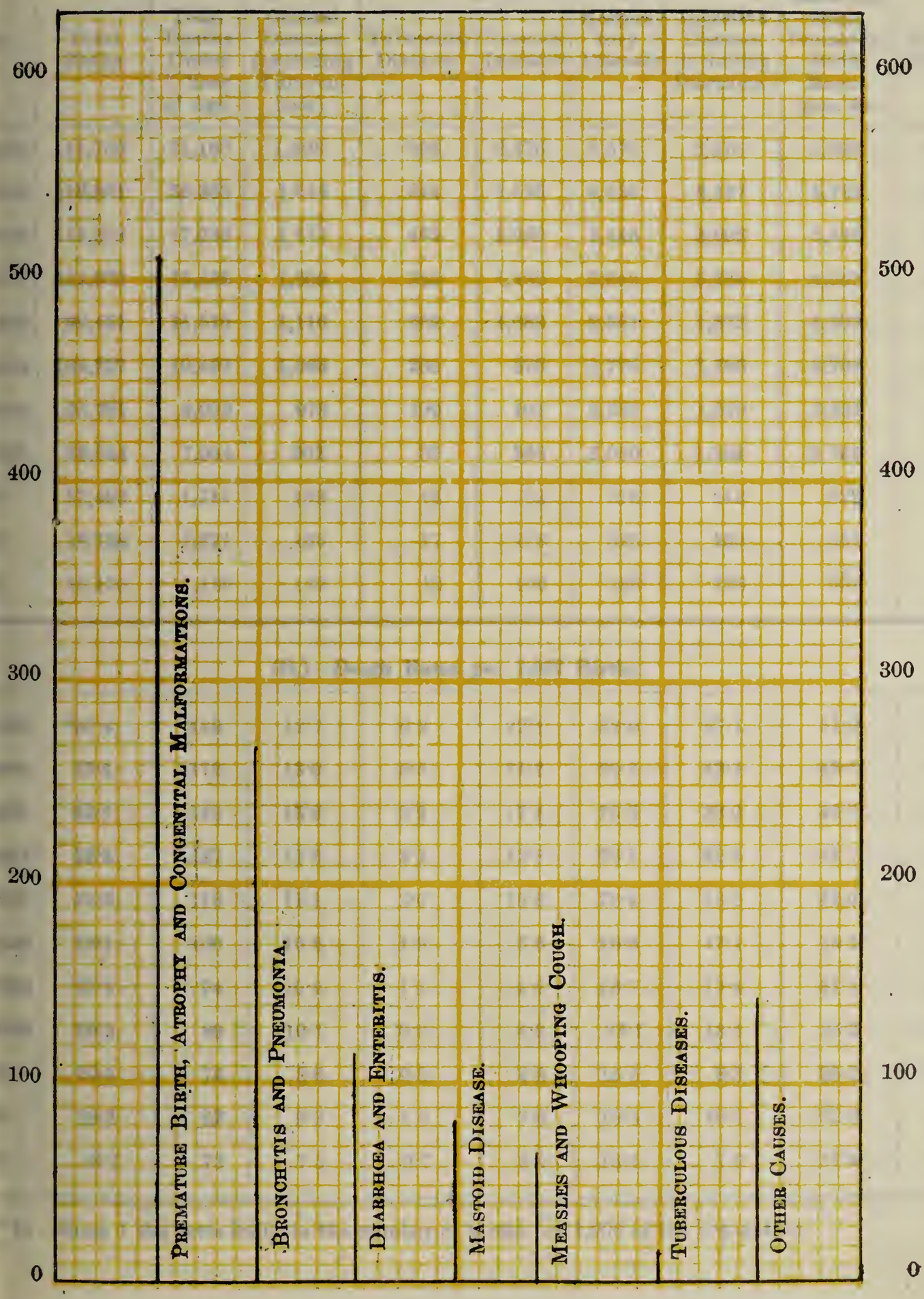
Examination of this table shows that whilst the annual number of births has shown some decline, fluctuating from 22,340 to 16,175 per annum, the number of infantile deaths has fallen from 4,232 to 1,189, and the infantile death rate has accordingly fallen from 189 to 73 per 1,000 births; in other words, this rate has fallen to 38·6 per cent. of the figure recorded in 1896-1900. This great saving of life during the past 40 years coincides with the many improvements in housing and sanitation in Liverpool; and more particularly this fall has occurred simultaneously with the increasing attention which has been directed to infant welfare by the Health Department and other bodies, by the improvement in the provison of assistance for women in child birth and the advice and help extended to mothers and infants by health visitors, ante-natal, post-natal and infant clinics, hospitals and other agencies.

Investigation of the actual causes of death bears this out. The greatest reduction has occurred under the heading Tubercular Diseases—reduction from 100 to 11·3, Digestive Diseases to 13·8 and Nervour Diseases to 29·4. The deaths included under the heading Nervous Diseases are mainly those certified as from convulsions, which are frequently a symptom of the onset of acute infective diarrhœa, by far the commonest cause of death in the group of digestive diseases. Convulsions may also occur at the onset of other infectious diseases, and further may result from injuries during birth. The heading Tubercular Diseases also formerly included many deaths ascribed to Tabes Mesenterica, a term of uncertain meaning, but probably including numerous cases of chronic diarrhœa. The reduction in these three groups of diseases is then mainly a reduction in deaths from diarrhœa.

Equally marked and even more satisfactory is the reduction in the number of deaths from " external " causes," which includes overlaying (see page 21) and burns and scalds. The great reduction in the deaths placed in this category testifies to the greater care taken of children and infants by parents. Much less satisfactory are the figures relating to respiratory diseases. The figures in column 8 relating to malformations, premature birth, marasmus, etc., although they show a considerable saving of life—631 lives saved per annum—and though doubtless containing many deaths of children who were so malformed as to be incapable of prolonged life, yet show much room for improvement.

CITY OF LIVERPOOL.

CHART SHOWING THE PRINCIPAL CAUSES OF DEATHS OF INFANTS UNDER ONE YEAR OF AGE DURING 1938.



CITY OF LIVERPOOL.

Chart showing the principal Causes of Deaths of Infants under One Year of Age during 1888.

Analysis of causes of Infant Mortality in successive quinquennia 1896-1935, and the years 1936, 1937 and 1938. (A.)—Recorded Deaths.

Years.	1 Total Births.	2 Total Deaths Under 1 Year of Age.	3 General Diseases (excluding Tuberculosis).	4 Tubercular Diseases.	5 Nervous Diseases	6 Respiratory Diseases	7 Digestive Diseases (including Diarrhœa.)	8 Malformations, Premature Birth, Marasmus, &c.	9 External Causes.
896/1900	111,700	21,160	1,508	698	2,476	3,575	6,376	5,698	819
901/1905	118,801	20,353	1,546	644	2,516	3,484	5,187	5,732	565
906/1910	118,313	17,739	1,613	465	2,052	3,146	3,902	5,520	539
911/1915	111,872	15,458	1,309	345	1,432	2,916	3,635	4,953	426
916/1920	99,451	11,510	1,116	202	1,083	2,821	1,872	4,107	179
921/1925	104,217	10,497	1,066	200	573	2,776	1,786	3,764	120
926/1930	95,701	9,002	978	109	401	2,553	1,670	2,981	81
931/1935	88,644	7,904	902	82	368	2,050	1,184	3,125	67
1936	17,403	1,311	149	14	83	270	142	622	13
1937	16,728	1,371	156	17	128	325	160	551	12
1938	16,175	1,189	122	12	106	266	128	508	15

(B.)—Death Rates per 1,000 Births.

1896/1900	*33·4	189	12·7	6·2	22·1	32·0	57·1	51·0	7·3
1901/1905	33·4	172	13·0	5·5	21·2	29·3	43·7	48·1	4·7
1906/1910	32·2	149	13·6	3·9	17·4	26·6	33·0	46·7	4·6
1911/1915	29·3	137	11·6	3·1	12·8	26·1	32·5	43·1	3·8
1916/1920	24·9	116	11·1	2·0	10·9	28·4	18·8	42·0	1·8
1921/1925	25·1	100	10·2	1·9	5·5	26·6	17·1	36·1	1·2
1926/1930	22·1	94	10·2	1·1	4·2	26·7	17·4	31·1	0·8
1931/1935	20·5	89	10·1	0·9	4·2	23·1	13·4	35·3	0·8
1936	20·1	75	8·6	0·8	4·8	15·5	8·2	35·7	0·7
1937	19·3	82	9·3	1·0	7·6	19·4	10·1	32·3	0·7
1938	18·7	73	7·5	0·7	6·5	16·4	7·9	31·4	0·9

* In column 1 the rates indicate the number of births per 1,000 of the population.

(C.)—Death Rates expressed as a percentage of the rates recorded in 1896-1900.

Years.	1 Birth Rates.	2 Total Deaths Under 1 Year of Age.	3 General Diseases (excluding Tuberculosis).	4 Tubercular Diseases.	5 Nervous Diseases.	6 Respiratory Diseases.	7 Digestive Diseases (including Diarrhœa.)	8 Malformations, Premature Birth, Marasmus, &c.	Ext Ca
1896/1900	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	1
1901/1905	100·0	91·0	102·3	89·3	95·0	91·5	76·5	94·0	
1906/1910	93·0	78·6	107·1	62·9	78·6	83·1	57·8	91·0	
1911/1915	87·0	72·5	91·9	50·0	57·9	81·5	56·9	84·0	
1916/1920	76·0	61·4	87·4	32·2	49·3	88·7	32·7	82·0	
1921/1925	75·1	54·9	80·3	30·6	24·9	84·7	29·9	70·8	
1926/1930	66·2	49·7	80·3	17·7	18·9	83·5	30·4	60·9	
1931/1935	61·4	47·2	79·5	14·8	18·9	72·2	23·4	69·2	
1936	60·2	39·6	67·7	12·9	21.7	48·4	14·4	70·0	
1937	57·8	43·5	73·2	16·1	34·4	60·6	17·7	63·3	
1938	56·0	38·6	59·1	11·3	29·4	51·2	13·8	61·6	

Deaths from Diabetes.

The following table shows the incidence of fatal cases of diabetes in Liverpool since 1890:—

	Actual Numbers.			Average.			Rate per 100,000 population.	Ratio of males to females
	Males.	Females.	Total.	Males.	Females.	Total.		
1890–1894	55	45	100	11·0	9·0	20·0	3·8	1·22
1895–1899	99	76	175	19·8	15·2	35·0	5·3	1·30
1900–1904	132	100	232	26·4	20·0	46·4	6·5	1·32
1905–1909	153	124	277	30·6	24·8	55·4	8·4	1·23
1910–1914	162	153	315	32·4	30·6	63·0	8·4	1·06
1915–1919	153	137	290	30·6	27·4	58·0	7·4	1·12
1920–1924	153	203	356	30·6	40·6	71·2	8·6	0·75
1925–1929	168	216	384	33·6	43·2	76·8	8·9	0·78
1930–1934	138	311	449	27·6	62·2	89·8	10·4	0·44
1935	18	60	78	—	—	—	9·0	0·30
1936	32	56	88	—	—	—	10·1	0·57
1937	37	66	103	—	—	—	11·9	0·56
1938	39	51	90	—	—	—	10·4	0·76

The death-rate from diabetes rose steadily till 1910-14. It is probable that this rise was largely due to improved diagnosis. During the war the number of deaths showed a distinct fall, especially in 1917 and 1918; this was a real fall and not merely due to the absence of males on military service as, on the average of five years, females were equally affected with males. Since the war the figures have again risen, and are now above the average for the decade 1910-19. The disparity in the incidence, between the two sexes, previously in favour of the females, has since 1904 tended to change. In 1890-1894, 55 per cent. of the deaths were of males; but since 1920-25 the position has been reversed, and in 1938 only 43 per cent. were of males. It is not improbable that the greater attention that has recently been paid to this disease has led to its more frequent recognition as a factor in mortality.

The age at death has also greatly altered and, especially among males, there is a preponderance of deaths at ages over 60 and a reduction in deaths under this age. In the year 1910, 66 per cent. of the deaths were under 65 years of age, in 1929 55 per cent., in 1930 63 per cent., in 1931 56 per cent., in 1932 57 per cent., in 1933 46 per cent., in 1934 43 per cent., in 1935 50 per cent., in 1936 49 per cent., in 1937 55 per cent., and in 1938 48 per cent.

CANCER.

Treatment of Cancer.

Radium is available for the treatment of cancer at the Liverpool Royal Infirmary and the Liverpool Radium Institute, otherwise known as the Cancer and Skin Hospital. Facilities for deep X-ray therapy are also available at the Radium Institute. An agreement has been made for the treatment by radium or deep X-ray therapy at the Radium Institute of patients transferred from the Municipal Hospitals.

Treatment of cancer by lead therapy has been given at the Municipal Hospitals under the guidance of Dr. Datnow, of the Liverpool Medical Research Organisation which is engaged in research into the most suitable organic lead compounds for the purpose.

Deaths from Cancer.

During 1938 there were 1,344 deaths attributed to cancer, equivalent to a rate of 1·5 per thousand, whereas in 1871-1880 the rate of mortality was 0·4 per thousand. Comparing the anatomical distribution in 1931-1935 and 1938 it will be observed that there is a tendency for deaths from cancer of the stomach, liver, etc., from cancer of the intestines, etc., and especially from cancer of other organs, mainly internal, to

increase. Such fluctuations, however, are apt to occur under the influence of chance.

Part of the increase in mortality from cancer is due to the increased longevity of the population, more of whom survive into those periods of life when cancer is most frequent. Whilst during the last 50 years there has been an increase in recorded cancer mortality at each age period except the earliest, the increase is most marked at the three later age periods, that is at ages over 60 years. The increase in recorded cancer mortality is mainly at old age.

The increased mortality from cancer was, therefore, (*a*) mainly among males; (*b*) most marked in the later years of life. There is evidence to show that the increase is especially in the case of cancer of the stomach, lungs and other internal organs where the disease is most difficult to diagnose. The increase in the deaths from cancer of the lungs in the last five years is very marked, but this is undoubtedly mainly due to better diagnosis. A great part in the increase is probably not real but statistical, the term, old age, for example, is less frequently used as a cause of death than in former years, and doubtless many deaths from cancer were formerly concealed under this title.

DEATHS FROM CANCER AT VARIOUS AGE-PERIODS, 1938.

Organs Affected.	Males.	Females.	Number of Deaths. At Ages—Years.									All Ages
			Under 10	10-	25-	40-	50-	60-	70-	75-	80-	
Buccal Cavity ...	80	13	—	—	1	5	18	38	22	7	2	93
Stomach	234	155	—	1	7	41	98	132	54	44	12	389
Liver	25	14	1	—	—	5	9	13	4	4	3	39
Intestines ...	131	132	—	1	10	17	54	69	13	32	17	263
Lungs	104	35	—	2	10	24	51	46	3	3	—	139
Female Genital Organs ..	—	108	—	—	2	20	29	28	14	12	3	108
Breast	—	91	—	—	4	15	24	26	9	6	7	91
Skin	17	11	—	—	—	4	2	1	9	9	3	28
Other Organs ...	133	61	5	9	7	17	45	55	25	16	15	194
	724	620	6	13	41	148	330	408	203	133	62	1,344

Deaths from Cancer, showing the parts of the body affected, during the years 1933 to 1938.

Parts of the Body affected.	1933.			1934.			1935.			1936.			1937.			Average 1933-37.			1938.		
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.
Buccal Cavity...	80	12	92	90	10	100	83	7	90	87	10	97	65	9	74	81	10	91	80	13	93
Stomach, liver, etc.	221	181	402	243	169	412	224	183	407	213	160	373	223	182	405	225	175	400	259	169	428
Intestines, etc.	114	122	236	119	143	262	149	146	295	149	119	268	145	138	283	135	134	269	131	132	263
Breast	2	116	118	—	101	101	3	90	93	—	102	102	—	107	107	1	103	104	—	91	91
Female Genital Organs	—	87	87	—	108	108	—	114	114	—	109	109	—	98	98	—	103	103	—	108	108
Skin	13	8	21	29	7	36	12	8	20	12	12	24	7	10	17	15	9	24	17	11	28
Lungs	67	17	84	67	19	86	86	22	108	96	27	123	96	24	120	82	22	104	104	35	139
Other Organs....	126	66	192	111	60	171	112	72	184	121	84	205	118	70	188	118	70	188	133	61	194
Totals.....	623	609	1232	659	617	1276	669	642	1311	678	623	1301	654	638	1292	657	626	1283	724	620	1344

Deaths due to Rheumatic Fever, Pericarditis and Acute Endocarditis (during 1938 and 9 previous years).

	1929.		1930.		1931.		1932.		1933.		1934.		1935.		1936.		1937.		1938.		Av. of 10 yrs. 1929-1938.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Rheumatic Fever	30	49	42	51	26	36	21	27	33	36	33	38	22	31	27	30	19	31	34	33	26	35
Pericarditis.....	10	4	6	9	9	4	8	2	6	5	12	6	5	6	9	7	6	6	5	5	7	5
Acute Endocarditis.....	34	53	18	33	15	27	15	21	15	13	9	9	9	3	9	6	12	14	9	13	15	20
TOTALS	74	106	66	93	50	67	44	50	54	54	54	53	36	40	45	43	37	51	48	51	48	60
	180		159		117		94		108		107		76		88		88		99		108	
Deaths from Scarlet Fever	41		35		11		11		27		19		6		2		8		8			

Monthly Distribution of Rheumatic Fever Deaths.

	1938. M.	1938. F.
January ...	1	2
February	6	5
March	5	3
April	4	2
May	4	3
June	3	1
July	4	6
August	1	1
September	2	2
October	1	—
November	1	2
December	1	6
Inward Transfers	1	—
	34	33

Deaths from Excessive Drinking, etc.

It is still gratifying to note that the deaths due to or accelerated by excessive drinking continue to remain low, the number being five.

The number of deaths of infants under one year of age from suffocation was six.

Improved habits and conditions, wider educational influences and other agencies, including those associated with the welfare of motherhood and infancy have all played their part in promoting a more temperate use of alcoholic drinks with results which are eminently satisfactory. Housing operations have unquestionably contributed towards improving the general conditions of life and social habits of the people formerly living in insanitary surroundings in slum areas. The improved condition of the children is especially noticeable; the reports in connection with medical inspection of school children in the poorer localities show welcome improvement, details in reference to this subject being given in the annual reports to the Education Committee.

The following table shows the number of deaths from excessive drinking from the year 1900 to date, together with the number of deaths of infants under one year of age from suffocation for the same period:—

	Deaths from excessive drinking.			Deaths from suffocation under 1 year of age.
	Males.	Females.	Total.	
1900—1909 (yearly average)	101	63	164	94
1910—1919 (yearly average)	53	28	81	51
1920—1929 (yearly average)	7	3	10	12
1930	4	—	4	12
1931	2	5	7	8
1932	3	4	7	5
1933	5	1	6	6
1934	1	3	4	5
1935	4	1	5	3
1936	3	3	6	7
1937	1	—	1	7
1938	4	1	5	6

Deaths from Gas Poisoning.

Deaths from this cause fall under two headings, namely, from accidental poisoning and suicide. The following table gives the number for the last ten years, viz. :—

Year.	Accidental.	Suicide.
1929	9	49
1930	4	46
1931	5	49
1932	5	47
1933	7	71
1934	9	52
1935	10	41
1936	5	36
1937	5	33
1938	9	43

METEOROLOGY.

The Director to the Liverpool Observatory and Tidal Institute, Bidston, has kindly furnished the following tables relating to Meteorological observations made by him at the Observatory, Bidston :—

Latitude 53° 24′ N. Longitude 3° 4′ W.

Height above the Mean Level of the Sea 202 feet.

1938	Barometer. Mean.	Temperature. Mean.	Rainfall.		Mean Humidity of the air (Complete Saturation 100 %).
			Amount.	No. of days on which 0·01 in. or more fell.	
	Inches.	Degrees F.	Inches.		
January	29·793	43·5	2·705	20	84·5
February	30·256	42·5	0·425	8	76·9
March	30·208	48·3	1·020	8	76·9
April	30·347	47.0	0·220	3	69·7
May	29·945	51·3	2·657	15	69·2
June	29·965	55·9	2·646	14	75·2
July	29·899	57·8	2·713	18	79·1
August	29·969	60·0	4·335	17	77·8
September	29·985	56·9	1·676	15	83·6
October	29·783	51·5	4·008	21	80.5
November	29·715	49·1	3·181	19	82·3
December	29·817	41·0	3·315	18	85.6

Difference from the Average Quantities observed during the last 72 years.

1938.	Barometer.		Temperature.		Rainfall.	
	Above Average.	Below Average.	Above Average.	Below Average.	Above Average.	Below Average.
	Inches.	Inches.	Degrees F.	Degrees F.	Inches.	Inches.
January	...	0·315	3·6	...	0·488	...
February	0·328	...	2·2	...	...	1·314
March.	0·313	...	6·1	...	...	0·729
April.....	0·445	...	0·5	...	...	1·430
May	...	0·021	...	0·8	0·640	...
June	...	0·026	...	1·4	0·559	...
July.....	...	0·046	...	2·6	0·025	...
August	0·046	...	0·2	...	1·226	...
September	0·019	...	0·7	...	...	1·076
October	...	0·097	1·7	...	0·664	...
November.....	...	0·167	5·2	...	0·595	...
December	...	0·037	0·3	...	0·595	...
Year's Totals ...	0·052	...	1·3	...	0·243	...

Monthly Analysis of Wind Observations during 1938:

Based on daily observations at four fixed hours.

1938.	Force of Wind (Beaufort Scale.*)				Direction.							
	8 or over.	4–7	1–3	Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
January	5	68	42	9	9	...	2	10	12	25	46	11
February	3	60	45	4	11	21	15	11	10	16	15	9
March	...	62	46	16	2	...	1	6	8	25	50	16
April.....	...	33	72	15	17	10	14	2	1	3	19	39
May	...	44	65	15	6	18	10	8	13	8	18	28
June	...	70	42	8	4	1	...	3	10	26	41	27
July.....	...	49	61	14	3	3	2	9	5	13	40	35
August	...	38	65	21	1	5	13	11	7	13	33	20
September	...	30	65	25	4	6	2	25	7	7	25	19
October	3	68	44	9	3	2	6	14	11	35	33	11
November.....	1	68	48	3	...	...	10	22	21	23	38	3
December	...	83	40	1	11	8	21	25	17	7	23	11
Year's Total	12	673	635	140	71	74	96	146	122	201	381	229

* Force 8 is a wind velocity of 38 m.p.h. or over, Forces 4-7 include winds of a velocity of 13-37 m.p.h., Forces 1-3 include winds of 3-12 m.p.h. and "Calm" denotes air movement of less than 3 m.p.h.

1938. Week Ended.		Barometer Mean.	Temperature. Maximum.	Temperature. Minimum.	Temperature. Mean.	Rainfall. Amount inches.	Rainfall. Duration hours.	Wind Mean direction.	Median Humidity %.	Sunshine hours.
January	1	30·61	47·0	32·8	39·73	Nil	Nil	N.	86·3	3·9
,,	8	30·1	44·8	35·4	39·8	0·7	18·1	N.W.	85·6	9·2
,,	15	29·29	52·9	32·3	42·39	0·7	20·7	S.W.	82·7	5·0
,,	22	29·88	54·9	35·9	44·86	0·18	6·2	Var.	79·7	13·6
,,	29	29·88	52·3	35·1	43·76	0·96	23·2	W.	76·5	16·8
February	5	29·83	52·8	38·7	46·23	0·185	5·3	S.W.	82·8	10·6
,,	12	30·27	50·8	35·5	42·27	0·18	5·1	N.W.	84·3	15·7
,,	19	30·47	47·3	31·0	37·86	Nil	Nil	E.	65·6	26·0
,,	26	30·3	53·3	34·0	40·5	0·17	5·9	Var.	74·3	5·0
March	5	30·38	55·3	38·8	46·3	0·02	0·6	W.	75·1	32·9
,,	12	30·37	58·0	33·0	46·7	0·04	0·9	Var.	86·17	13·8
,,	19	30·12	58·4	37·8	50·3	0·14	1·5	Var.	72·74	30·4
,,	26	29·94	54·4	34·0	44·8	0·83	18·6	W.	72·7	32·6
April	2	30·16	57·9	39·7	51·0	0·2	3·4	W.	78·7	21·5
,,	9	30·34	52·8	33·8	45·3	0·01	1·2	N.W.	68·7	41·9
,,	16	30·52	54·4	35·0	45·6	Nil	Nil	N.W.	71·8	59·7
,,	23	30·39	53·0	34·3	46·3	0·01	2·0	N.W.	71·8	42·5
,,	30	30·2	56·2	37·8	47·47	Nil	Nil	N.E.	65·5	37·0
May	7	30·13	61·3	37·5	48·33	Nil	Nil	N.E.	53·8	64·0
,,	14	30·0	68·2	40·0	53·4	0·36	9·3	S.W.	65·24	34·9
,,	21	29·95	64·5	41·8	51·9	0·22	6·9	N.W.	74·5	40·3
,,	28	29·86	61·2	46·3	52·44	0·95	20·9	Var.	79·4	24·3
June	4	29·68	67·4	43·9	51·7	2·4	37·0	N.W.	77·3	28·5
,,	11	30·0	68·3	48·0	55·9	0·2	6·1	W.	69·9	51·8
,,	18	30·27	68·2	50·5	56·03	0·016	0·9	N.W.	79·6	39·4
,,	25	30·04	64·8	50·9	57·9	0·42	12·5	W.	75·4	30·3

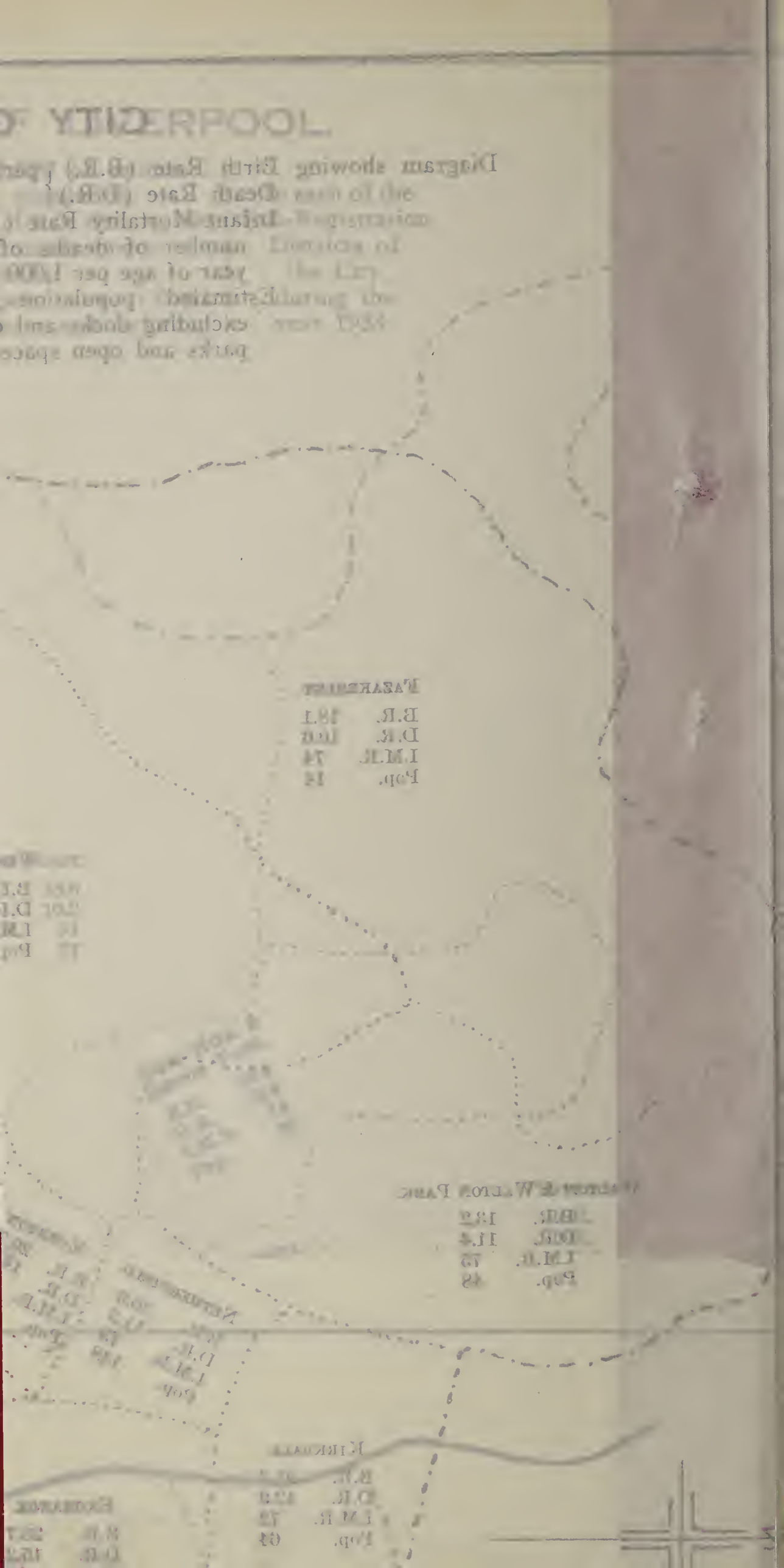
1938. Week Ended.	Barometer Mean.	Temperature.			Rainfall.		Wind Mean direction.	Median Humidity %.	Sunshine hours.
		Maximum.	Minimum.	Mean.	Amount inches.	Duration hours.			
July 2	20·68	63·8	49·2	56·1	0·77	8·6	Var.	73·7	53·9
,, 9	29·74	64·2	46·9	54·4	1·39	24·2	W.	79·9	29·7
,, 16	29·92	66·2	51·9	57·56	0·53	12·7	W.	82·8	15·5
,, 23	30·1	66·4	53·3	59·4	0·04	2·6	N.W.	78·4	51·8
,, 30	29·83	68·8	50·6	60·1	0·72	13·8	Var.	77·8	25·5
August 6	30·03	75·0	53·6	64·1	1·0	3·7	E.	72·4	43·3
,, 13	29·84	71·0	54·5	61·9	1·68	8·7	Var.	87·2	13·9
,, 20	29·73	70·2	49·2	58·7	0·55	11·5	W.	73·1	45·7
,, 27	30·05	67·0	51·0	58·74	1·2	19·6	W.	80·3	46·3
September 3	30·05	63·8	47·5	54·7	0·08	2·3	N.W.	70·0	50·1
,, 10	30·16	63·4	47·4	56·9	0·47	8·9	Var.	87·4	34·2
,, 17	30·09	65·0	46·0	56·84	0·13	7·5	Var.	83·0	15·4
,, 24	29·77	64·8	49·0	57·6	0·47	10·5	S.E.	85·9	11·5
October 1	29·88	64·4	47·0	55·46	0·7	12·5	Var.	86·1	22·8
,, 8	29·43	61·1	44·4	51·5	1·36	25·8	W.	73·8	26·4
,, 15	29·83	65·0	46·0	54·17	0·78	10·8	S.W.	78·9	30·8
,, 22	30·0	57·5	42·8	50·77	0·61	10·6	Var.	82·3	23·6
,, 29	29·9	55·1	41·4	47·9	1·0	28·7	Var.	85·9	9·4
November 5	29·79	62·5	42·8	50·99	0·36	8·7	W.	80·5	21·4
,, 12	29·86	60·4	44·0	53·7	0·3	8·3	Var.	85·8	20·0
,, 19	30·02	59·9	40·0	50·14	0·35	7·3	Var.	87·2	17·0
,, 26	29·47	51·0	36·1	42·7	1·8	28·1	W.	82·0	18·4
December 3	29·54	50·0	34·1	42·30	0·82	13·8	W.	76·0	24·5
,, 10	29·54	52·0	35·0	43·56	1·54	32·6	Var.	87·0	10·2
,, 17	29·76	51·0	28·1	43·74	0·22	11·0	S.E.	87·2	8·4
,, 24	30·12	38·0	23·9	31·44	Nil	Nil	N.E.	82·3	12·1
,, 31	29·97	48·2	31·8	40·44	1·2	31·3	W.	88·9	3·6

CITY OF LIVERPOOL.

Diagram showing Birth Rate (B.R.) } per 1,000 of estimated
Death Rate (D.R.) } population.
Infant Mortality Rate (I.M.R.), that is, the number of deaths of infants under one year of age per 1,000 births.
Estimated population per acre (Pop.) excluding docks and quays and including parks and open spaces.

In each of the Sub-Registration Districts of the City, during the year 1938.

Population	whole city	864,000
Birth Rate	do.	18.7
Death Rate	do.	12.3
Infant Mortality Rate	do.	73
Population per acre	do.	32



INFECTIOUS DISEASES.

NOTIFICATION OF INFECTIOUS DISEASE.

The following is a list of the diseases notifiable in Liverpool during 1938:—

Anthrax
Acute Poliomyelitis
Cerebro-spinal Fever
Cholera
Diphtheria
Dysentery
Enteric (Typhoid) Fever
Erysipelas
Encephalitis Lethargica, Acute
Malaria
Membranous Croup
Ophthalmia Neonatorum
Paratyphoid Fever
Plague
Pneumonia, Acute Influenzal
Pneumonia, Acute Primary
Polio-encephalitis, Acute
Puerperal Pyrexia (including Puerperal Fever)
Relapsing Fever
Scarlet Fever or Scarlatina
Smallpox
Tuberculosis (all forms)
Typhus Fever

General Statistical Tables.

In Table I are given the numbers of notifications of infectious disease received from medical practitioners during each month of 1938.

TABLE I.

MONTHLY NUMBERS OF NOTIFICATIONS OF INFECTIOUS DISEASE DURING 1938.

January	1,293
February	1,002
March	1,034
April	713
May	810
June	662
July	603
August	497
September	604
October	636
November	747
December	888
	9,489

In Table II are given the numbers of cases of infectious disease coming to notice during 1938, both by means of notifications from medical practitioners and in other ways, together with the number of patients who were removed to hospital.

TABLE II.

NUMBERS OF CASES OF INFECTIOUS DISEASES COMING TO NOTICE DURING 1938, AND NUMBERS ADMITTED TO HOSPITAL.

	January	February	March	April	May	June	July	August	September	October	November	December	Totals	Cases admitted to hospital	Per centage admitted to hospital
Smallpox	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Plague	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enteric Fever ...	1	—	1	4	2	3	—	1	6	1	2	11	32	32	100·0
Scarlet Fever ...	353	365	280	275	214	170	180	117	159	223	233	318	2887	1243	43·0
Measles and German Measles...	1406	928	373	129	58	47	18	7	8	6	11	15	3006	411	13·7
Diphtheria	295	346	291	259	155	77	150	126	192	222	133	219	2465	2421	98·0
Puerperal Fever ...	3	4	—	6	—	—	6	1	3	2	—	1	26	22	84·6
Puerperal Pyrexia	24	29	36	34	35	24	46	24	19	32	19	29	351	316	90·0
Erysipelas	98	63	69	62	48	48	60	40	32	50	53	47	670	271	40·4
Cerebro-spinal Fever	5	8	17	8	3	7	5	6	3	5	3	6	76	76	100·0
Poliomyelitis and Polio-encephalitis	1	1	—	—	—	—	—	1	—	—	6	1	10	10	100·0
Ophthalmia Neonatorum ...	69	64	58	67	54	48	75	65	51	68	70	79	768	166	21·6
Pneumonia & Influenzal Pneumonia	180	92	128	121	178	159	118	39	92	86	77	245	1515	670	44·2
Malaria	12	1	9	4	13	14	25	15	5	9	1	15	123	55	44·7
Dysentery	1	8	5	1	3	5	2	4	2	—	4	6	41	38	92·7
Encephalitis Lethargica ...	3	1	1	3	1	1	4	1	—	3	—	—	18	13	72·2
Whooping Cough ...	146	142	151	115	140	80	43	73	37	16	25	49	1017	245	24·1
Anthrax	—	1	—	—	—	—	—	—	—	—	—	1	2	2	100·0
Chickenpox ...	71	86	81	74	107	121	47	26	28	35	84	94	854	90	10·5
Totals ...	2668	2139	1500	1162	1011	804	779	546	637	758	721	1136	13861	6081	43·9

The numbers of patients admitted to hospital include the cases which occurred while in hospital.

In Table III are given the numbers of cases of infectious diseases coming to notice during 1938, and also corresponding cases during the previous five years.

TABLE III.

NUMBERS OF CASES OF INFECTIOUS DISEASES DURING 1938 AND THE FIVE PREVIOUS YEARS.

Disease.	1933	1934	1935	1936	1937	1938
Smallpox	—	—	—	—	—	—
Plague	—	—	—	—	—	—
Typhus Fever	—	—	—	—	—	—
Enteric Fever	70	23	30	21	151	32
Scarlet Fever	5,286	3,574	1,900	1,600	3,188	2,887
Measles and German Measles ...	10,004	11,055	8,907	7,240	4,108	3,006
Diphtheria	2,917	2,913	2,695	2,179	2,465	2,465
Puerperal Fever	44	43	48	42	33	26
Erysipelas	920	819	831	713	677	670
Cerebro-spinal Fever	64	69	69	94	94	76
Poliomyelitis and Polio-encephalitis	10	9	3	15	6	10
Ophthalmia Neonatorum ...	594	695	670	691	785	768
Anthrax	—	2	2	1	4	2
Encephalitis Lethargica ...	30	30	25	23	16	18
Whooping Cough	987	2,437	1,044	931	1,229	1,017
Malaria	26	18	15	41	138	123
Dysentery	3	7	3	7	77	41
Chickenpox	2,888	2,715	2,764	1,811	1,759	854

In Table IV are given the numbers of deaths from infectious diseases during 1938, and also corresponding deaths during the previous five years.

TABLE IV.

NUMBERS OF DEATHS FROM INFECTIOUS DISEASES DURING 1938, AND THE FIVE PREVIOUS YEARS.

Disease.	1933	1934	1935	1936	1937	1938
Smallpox	—	—	—	—	—	—
Plague	—	—	—	—	—	—
Typhus Fever	—	—	—	—	—	—
Enteric Fever	2	—	4	1	16	8
Scarlet Fever	27	19	6	2	8	8
Measles and German Measles ...	299	229	154	176	120	111
Diphtheria	177	177	149	139	148	148
Influenza	342	116	146	66	228	74
Puerperal Fever	29	25	29	20	10	11
Erysipelas	73	54	55	36	17	8
Cerebro-spinal Fever	45	37	33	55	47	37
Poliomyelitis and Polioencephalitis	3	3	—	1	—	3
Anthrax	—	—	—	—	—	—
Encephalitis Lethargica ...	21	24	22	14	16	18
Whooping Cough	93	172	62	105	122	104
Malaria	2	2	4	3	6	3
Dysentery	2	2	4	3	7	6
Chickenpox	1	—	1	—	2	1

In Table V are given the case-rates per 1,000 of the population and the death-rates per 100,000 of the population in respect of the infectious diseases named at the head of the table.

TABLE V.

CASE-RATES AND DEATH-RATES OF INFECTIOUS DISEASE DURING 1938.

	Smallpox.	Enteric Fever.	Scarlet Fever.	Measles.	Diphtheria.	Puerperal Fever.	Erysipelas.	Cerebro-spinal Fever.	Poliomyelitis and Polioencephalitis.	Encephalitis Lethargica.	Malaria.	Whooping
Cases	—	32	2,887	3,006	2,465	26	670	76	10	18	123	1,0
Case-rate per 1,000 inhabitants...	—	0·04	3·34	3·48	2·85	1·5*	0·78	0·09	0·01	0·02	0·14	1·
Deaths ...	—	8	8	111	148	11	8	37	3	18	3	1
Death-rate per 100,000 inhabitants...	—	0·9	0·9	12·8	17·1	65·4†	0·9	4·3	0·3	2·1	0·3	1

* Case-rate per 1,000 live and still births. † Death-rate per 100,000 live and still-births.

INFECTIOUS SICKNESS.

Plague.

No case of plague occurred in the city during the year.

Smallpox.

No case of smallpox occurred in the city during the year.

The following figures for England and Wales show a gradual and remarkable spread of a very mild type of smallpox during the years 1925 to 1930, followed by a rapid decline. Only a few deaths occurred among the thousands of cases reported.

Year.	Cases.	Deaths.
1925	5,365	9
1926	10,205	19
1927	14,769	49
1928	12,433	53
1929	10,975	39
1930	11,855	28
1931	5,665	9
1932	2,070	3
1933	631	2
1934	179	6
1935	1	0
1936	12	0
1937	4	0
1938	18	2

(Extracted from the Registrar-General's Quarterly Returns.)

On account of its world-wide trade, Liverpool must always be one of the channels through which the severe types of smallpox may be imported. Furthermore, the constantly moving population—inwards and outwards—renders the city particularly liable to infection. For that reason it has always been the policy of the department to continue to urge that the only safeguard against smallpox and the risk of death from this disease is vaccination and re-vaccination.

In Liverpool, however, the child population is relatively well vaccinated, as the most recent available figure for 1937 shows that 67 per cent. of the children born in Liverpool were successfully vaccinated.

In Table VI are given the numbers of primary vaccinations in Liverpool during the year 1937 and five previous years.

TABLE VI.

PRIMARY VACCINATIONS.

	1932	1933	1934	1935	1936	193
1.—Number of children born ...	18,543	17,448	18,230	17,994	18,394	18,0
2.—Number of primary vaccinations	13,122	11,921	12,466	12,128	12,236	12,0
3.—Number of exemption certificates granted ...	2,134	2,295	2,536	2,530	2,613	2,6
4.—Number of certificates of insusceptibility sent ...	120	96	58	57	61	4

In Table VII are given the numbers of primary vaccinations during 937, arranged in accordance with their recurrence in four districts.

TABLE VII.

PRIMARY VACCINATIONS IN DISTRICTS DURING 1937.

District.	Sub-District.	No. of children born.	No. of primary vaccinations.	No. of exemptions granted.	No. of certificates of insusceptibility.	Percentage of children successfully vaccinated.
1	Toxteth Park ...	1,073	602	224	—	56·1
	Sefton Park ...	1,656	956	232	3	57·7
	St. Peter's (part of)	433	267	41	1	61·7
	Edge Hill (part of)	235	138	58	—	58·7
	Wavertree ...	901	558	190	5	61·9
2	Abercromby ...	2,833	1,829	547	9	64·5
	St. Peter's (part of)	477	344	31	7	72·1
	Exchange	846	663	30	5	78·4
	Everton	1,917	1,337	161	2	69·7
	Netherfield ...	871	630	110	—	72·3
3	Walton Park ...	2,851	2,081	257	11	73·0
	Walton	723	486	167	3	67·2
	Edge Hill (part of)	737	429	140	—	58·2
	Fazakerley ...	873	587	200	1	67·2
	West Derby ...	902	601	205	—	66·6
4	Kirkdale	719	586	42	—	81·5
Summary	No. 1 District ...	4,298	2,521	745	9	58·7
	No. 2 District ...	6,944	4,803	879	23	69·2
	No. 3 District ...	6,086	4,184	969	15	68·7
	No. 4 District ...	719	586	42	—	81·5
	Total ...	18,047	12,094	2,635	47	67·0

Typhus Fever.

No case occurred in Liverpool during 1938, and no indigenous case has occurred in the city during the course of the past twenty years.

Anthrax.

The importation of large amounts of animal products, which are handled in transit to stores or manufactories, has associated with it the risk of human infection with the anthrax bacillus, causing a condition known as malignant pustule or cutaneous anthrax.

To emphasise the importance of early diagnosis and serum treatment in all cases of this disease, the Health Department has taken steps to make facilities for diagnosis available for the public. Posters have been printed on the subject and are affixed in suitable places. A pocket card has also been issued containing full information regarding the appearance and symptoms of cutaneous anthrax and advice on the action to be taken.

Arrangements are also made to admit all cases of anthrax or suspected anthrax direct to the City Hospital, Fazakerley. Four cases of anthrax were received for treatment during 1938, all being residents of Liverpool or Bootle. Three of these patients were dock labourers, and one was a tannery hand. Two of them showed infection near the throat; the third presented the lesion above the right ankle—an unusual situation; whilst the fourth had an infection involving the right upper eyelid and to a lesser extent, the lower lid. All recovered. The last case was still under treatment at the end of the year, and extensive sloughing of the eyelids was in process, necessitating, at a later date, a plastic operation in order to build up new eyelids.

It is of special interest to note that since the practice of giving anthrax cases Neokharsivan intravenously along with large doses of serum, was initiated five years ago, in none of the twenty-four patients so treated, amongst which were a number of severe and dangerously located infections, has death occurred.

During the year, twenty-two persons attended for investigation as suspected anthrax infection. In one instance, a case of anthrax was thus discovered. The remainder were cases of boils, carbuncles, and other localised skin infections.

It is satisfactory to note that employers connected with the docks, tanneries, transport, and other industries in which anthrax infection is a possibility, are availing themselves of the facilities offered for investigation at the City Hospital, Fazakerley. Since 1929, 256 persons have reported for special investigation, and on ten occasions has anthrax been found by this means and prompt treatment assured.

Cases of Anthrax treated at Liverpool City Hospital, Fazakerley, during 1938.

Age.	Sex.	Occupation.	Days ill on admission.	Site of Infection.	Clinical Notes.	Serum injected daily. Each dose expressed in c.cs.	Result.
20	M.	Dock labourer	2	Front of right tibia	Typical, mild, heavy serum rash and serum sickness	300 c.c. 250 c.c.	Recovery
34	M.	Tannery hand	3	Left jaw angle	Oedema from ear to clavicle, and slight dysphonia and dysphagia	300 c.c. 300 c.c. 200 c.c.	Recovery
30	M.	Dock labourer	5	Below chin	Oedema from above ear to below nipple. Very heavy serum rash	250 c.c. 400 c.c. 400 c.c. 150 and 40 c.c. Haem. Strep. Serum	Recovery
45	M.	Dock checker	5	Right upper eye-lid	Severe sloughing right upper eye-lid and part of lower lid. Heavy serum rash	300 c.c. 250 c.c. 300 c.c. 300 c.c.	Recovery (Awaiting plastic operation).

serum was given intravenously with, at the same time, 0·3 gms. Neokharsivan on the first day of it, and 0·45 gms. Neokharsivan on the third day.

In order to eliminate as far as possible the handling of hides by dock labourers and others, the hide trades connected with this port have agreed not to open bales of China hides at the docks beyond what is necessary for sampling purposes.

The disinfection of imported dangerous wools is carried out at the Government Wool Disinfecting Station, Love Lane, and the Liverpool Port Health Authority assists by having samples of the untreated wools and those which have passed through the disinfecting process, examined by the City Bacteriologist; this helps to confirm and control the Duckering disinfecting process. During the year, 386 samples of treated and untreated wool, hair. etc., were examined and 76 untreated samples showed positive evidence of anthrax infection. Those treated were all found to be free from anthrax infection.

The Ministry of Agriculture has drawn attention to the danger to farm animals in Great Britain in connection with the shipment in foreign ports of commodities containing the spores of anthrax. The disease is prevalent in animals in many parts of the world from which supplies of raw hides, hair, wool and feeding stuffs, e.g., cattle cake and its ingredients, are drawn. Infection may be conveyed to the farm by means of such animal substances from foreign countries, especially those places where inadequate or no precautions are taken.

Anthrax spores may be shaken from the above-mentioned animal products and may become mixed with foodstuffs or hold-sweepings, and thus infection may be indirectly conveyed to animals of the farm.

The spores of the anthrax bacillus have great resisting power, and may remain active for years unless measures are taken to destroy them.

The suggestion is made that special precautions should be adopted so that dried hides, wool, hair, etc., should not be carried, mixed with, or be placed on top of grain or feeding stuffs, and that the holds which have contained animal products of this nature should be thoroughly disinfected; further, that the sweepings of holds containing grain, etc., should not be mixed with other foodstuffs.

Typhoid and Paratyphoid Fever.

During the year there occurred 26 cases of typhoid fever and 6 cases of paratyphoid fever.

In Table VIII are given the number of cases occurring in each type of infection together with the sex distribution.

TABLE VIII.

TYPHOID AND PARATYPHOID FEVER.

Type.	Cases.		Deaths.	
	Male	Female	Male	Female
Typhoid Fever	12	14	4	2
Paratyphoid—A	—	—	—	—
Paratyphoid—B	3	3	—	2
Paratyphoid—C	—	—	—	—
Unclassified	—	—	—	—

The 26 typhoid cases (of which 23 were indigenous) represent a case-rate of 0·03 per 1,000 of the population. The 6 paratyphoid cases (all of which were indigenous) represent a case-rate of 0·01 per 1,000 of the population.

In Table IX are given the age and sex distribution of both typhoid and paratyphoid fever cases.

TABLE IX.

TYPHOID AND PARATYPHOID FEVER.—AGE AND SEX DISTRIBUTION.

Age	Typhoid		Paratyphoid	
	Male	Female	Male	Female
Under 1 Year ...	—	—	—	1
1 + ...	—	—	—	1
2 + ...	—	—	—	—
5 + ...	2	3	—	—
10 + ...	5	7	1	1
15 + ...	—	—	1	—
20 + ...	1	1	—	—
30 + ...	1	1	—	—
40 + ...	2	—	—	—
50 + ...	1	2	1	—
70 + ...	—	—	—	—
TOTAL	12	14	3	3

Port Cases of Typhoid Fever.

During the year four cases of typhoid fever were imported from overseas. None of these cases is included in Tables VIII and IX.

Undulant Fever.

One case of undulant fever was reported during the year. The source of infection was not traced.

Diphtheria.

During 1938, 2,465 cases of diphtheria were reported, a case-rate of 2·8 per 1,000 of the population. Of these cases, 148 proved fatal, making a fatality rate of 6·0 per 100 cases and a mortality rate of 17·1 per 100,000 of the population.

In Table X are given the numbers of cases of diphtheria and of deaths from this disease during 1938 in the various districts of Liverpool.

TABLE X.

DIPHTHERIA—CASES AND DEATHS DURING 1938.

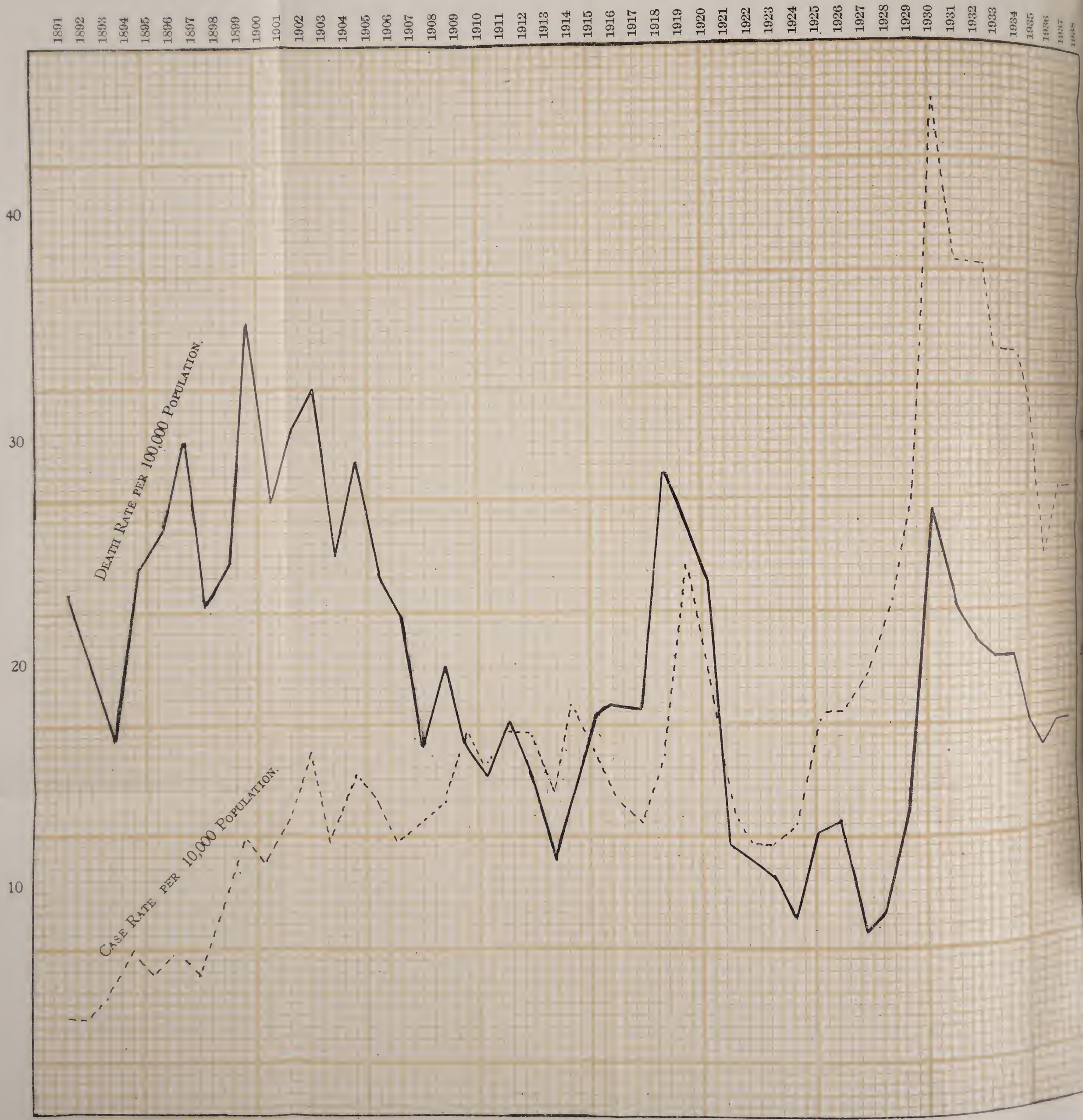
District.	Estimated Population, 1938	Cases.	Deaths.	Attack Rate per 1,000 population.	Death Rate per 100,000 population.	Case Fatality Rate %	Percentage.		
							Proportion of Secondary to Primary Cases.	Proportion of Children under 2 years of age to Total Cases.	Proportion of Children under 5 years of age to Total Cases.
1. Exchange	47,413	182	12	3·8	25·3	6·6	2·2	2·2	19·8
2. Abercromby	23,188	89	4	3·8	17·2	4·5	7·9	10·1	27·0
3. St. Peter's	50,739	144	4	2·8	7·9	2·8	5·5	1·5	20·9
4. Everton	28,223	116	4	4·1	14·2	3·5	1·7	1·7	26·7
5. Netherfield	71,975	255	11	3·5	15·3	4·3	3·9	6·7	42·3
6. Kirkdale	59,304	182	11	3·1	18·5	6·0	4·4	2·7	29·1
7. Edge Hill & Sefton Park	111,093	284	19	2·5	17·1	6·7	5·6	4·9	29·6
8. Toxteth Park	90,308	247	19	2·7	21·0	7·7	2·8	3·6	23·9
9. Walton & Walton Park	91,666	180	11	2·0	12·0	6·1	2·2	5·0	3·4
10. West Derby	109,149	222	15	2·0	13·7	6·8	2·7	5·0	35·1
11. Wavertree	108,717	263	16	2·4	14·7	6·1	7·6	0·8	11·0
12. Fazakerley	72,225	301	22	4·2	30·3	7·3	7·6	5·3	30·6
Central Districts (1 to 3)	121,340	415	20	3·4	16·5	4·8	4·6	4·6	21·7
Middle Districts (4 to 9)	452,569	1,264	75	2·8	16·6	5·9	3·7	4·4	31·4
Outer Districts (10 to 12)	290,091	786	53	2·7	18·3	6·7	6·2	3·7	26·6
Whole City	864,000	2,465	148	2·8	17·1	6·0	4·7	4·2	24·2

CITY OF LIVERPOOL

DIPHTHERIA 1892-1938. FATALITY RATES PER 100 CASES.

CITY OF LIVERPOOL

DIPHTHERIA 1891—1938. CASE RATES PER 10,000 POPULATION AND DEATH RATES PER 100,000 POPULATION.



In Table XI are given the number of cases of diphtheria and of deaths from this disease during 1938, and also during nine previous years.

TABLE XI.

DIPHTHERIA—CASES AND DEATHS DURING 1938 AND NINE PREVIOUS YEARS.

	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938
Cases	2,336	4,023	3,256	3,312	2,917	2,913	2,695	2,179	2,465	2,465
Case-rate per 1,000 population ...	2·7	4·6	3·8	3·8	3·4	3·4	3·1	2·5	2·8	2·8
Deaths ...	139	236	197	184	177	177	149	139	148	148
Death-rate per 100,000 population ...	15·9	26·8	23·0	21·3	20·4	20·4	17·2	16·0	17·1	17·1
Fatality rate per 100 cases	5·9	5·9	6·0	5·5	6·1	6·1	5·5	6·4	6·0	6·0

Prior to 1857 there were no records of the deaths from diphtheria, the heading croup presumably containing all the deaths from this disease; from 1858 onwards, however, the term diphtheria has steadily replaced croup as a certified cause of death.

The accompanying graphs show the decline in the fatality rate of this disease since 1892, and also the great rise in the annual number of cases during the same period of time.

In Table XII are given details relating to ages at death, ages of notified cases, and percentage fatality at various ages, etc.

TABLE XII.

DEATHS FROM DIPHTHERIA.

DISTRICTS.	Quarters.								Year 1938.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Exchange	1	2	2	2	1	1	1	2	5	7	12
Abercromby	2	1	—	—	1	—	—	—	3	1	4
St. Peter's	—	2	1	—	—	1	—	—	1	3	4
Toxteth Park	4	3	2	2	2	2	1	3	9	10	19
Edge Hill and Sefton Park	4	5	4	3	—	1	2	—	10	9	19
Wavertree	3	4	2	1	2	2	2	—	9	7	16
Fazakerley	5	7	2	2	—	2	3	1	10	12	22
Walton and Walton Park	—	4	—	2	—	2	2	1	2	9	11
Kirkdale	2	2	—	1	—	3	1	2	3	8	11
Netherfield	3	1	—	3	—	—	3	1	6	5	11
Everton	2	1	—	—	—	—	—	1	2	2	4
West Derby	3	1	2	3	1	3	1	1	7	8	15
City	29	33	15	19	7	17	16	12	67	81	148

Ages at Death.

Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	60—	All Ages.
7	16	14	15	19	46	22	4	2	1	1	1	—	148

Ages of Notified Cases.

47	97	219	219	224	1006	347	150	103	33	16	3	1	2465
73%						27%							

Percentage Fatality at each Age.

14·9	16·5	6·4	6·8	8·5	4·6	6·3	2·7	1·9	3·0	6·2	33·3	—	6·0

N.B.—Death in public institutions are transferred to the districts from which the patients came.

It was in 1890 that diphtheria and membranous croup became notifiable. In 1895 treatment by antitoxin was introduced. Since that time there has been a steady reduction in the fatality-rate. Whereas in 1895, 31 patients out of every 100 died in Liverpool, the percentage fatality-rate now varies between 5 per cent. and 7 per cent. This favourable result is greatly helped by the admission to hospital of all patients willing to go. During 1938, 2,421 patients were admitted to hospital out of 2,465 cases notified, an admission rate of 98·0 per cent.

It was hoped at one time that extensive hospitalization and improvements in treatment would result in a material reduction in the number of cases occurring. This has not been so. On the contrary, in Liverpool, there has been a considerable rise in the number of cases and, since 1929, there has been an epidemic which has taxed the hospital accommodation severely and has given rise to considerable anxiety.

There is reason to believe that the way out of this dilemma lies in the extensive protection of children against diphtheria by means of inoculation. In later paragraphs ([1]) the steps which have been taken successfully in this direction are described.

Scarlet Fever.

During 1938, 2,887 cases of scarlet fever were reported, a case-rate of 3·3 per 1,000 of the population. Of these cases, 8 proved fatal, making a fatality-rate of 0·3 per 100 cases, and a mortality-rate of 0·9 per 100,000 of the population.

A severe epidemic of scarlet fever which commenced during the third quarter of the year 1937 and which reached its height and remained at a high level during the whole of the fourth quarter of that year commenced to fall during the first quarter of 1938. With few exceptions, the cases were of a mild character.

In Table XIII are given the numbers of cases of scarlet fever and of deaths from this disease during 1938, in the various districts of Liverpool.

([1]) Page 55.

TABLE XIII.

SCARLET FEVER—CASES AND DEATHS DURING 1938.

District.	Estimated Population, 1938	Cases.	Deaths.	Attack Rate per 1,000 population.	Death Rate per 100,000 population.	Case Fatality Rate %	Percentage.		
							Proportion of Secondary to Primary Cases.	Proportion of Children under 2 years of age to Total Cases.	Proportion of Children under 5 years of age to Total Cases.
1. Exchange	47,413	112	—	2·4	—	—	2·7	4·5	12·1
2. Abercromby	23,188	72	—	3·1	—	—	—	12·5	33·3
3. St. Peter's	50,739	91	—	1·8	—	—	2·2	5·5	33·0
4. Everton	28,223	114	—	4·0	—	—	4·4	1·8	27·2
5. Netherfield	71,975	377	—	5·2	—	—	4·5	4·5	28·6
6. Kirkdale	59,304	202	—	3·4	—	—	6·4	2·5	26·2
7. Edge Hill & Sefton Park	111,093	291	2	2·6	1·8	0·7	2·7	4·8	28·0
8. Toxteth Park	90,308	214	—	2·4	—	—	3·3	4·2	27·6
9. Walton & Walton Park	91,666	324	2	3·5	2·2	0·6	4·6	2·8	19·1
10. West Derby	109,149	409	1	3·7	0·9	0·2	3·4	2·7	19·1
11. Wavertree	108,717	293	1	2·7	0·9	0·3	4·1	0·7	13·3
12. Fazakerley	72,225	388	2	5·4	2·8	0·5	7·5	4·1	23·7
Central Districts (1 to 3)	121,340	275	—	2·3	—	—	1·8	6·9	32·7
Middle Districts (4 to 9)	452,569	1,522	4	3·7	0·9	0·3	4·3	3·7	26·0
Outer Districts (10 to 12)	290,091	1,090	4	3·7	1·4	0·4	5·0	2·7	19·2
Whole City	864,000	2,887	8	3·3	0·9	0·3	4·3	3·6	24·1

CITY OF LIVERPOOL

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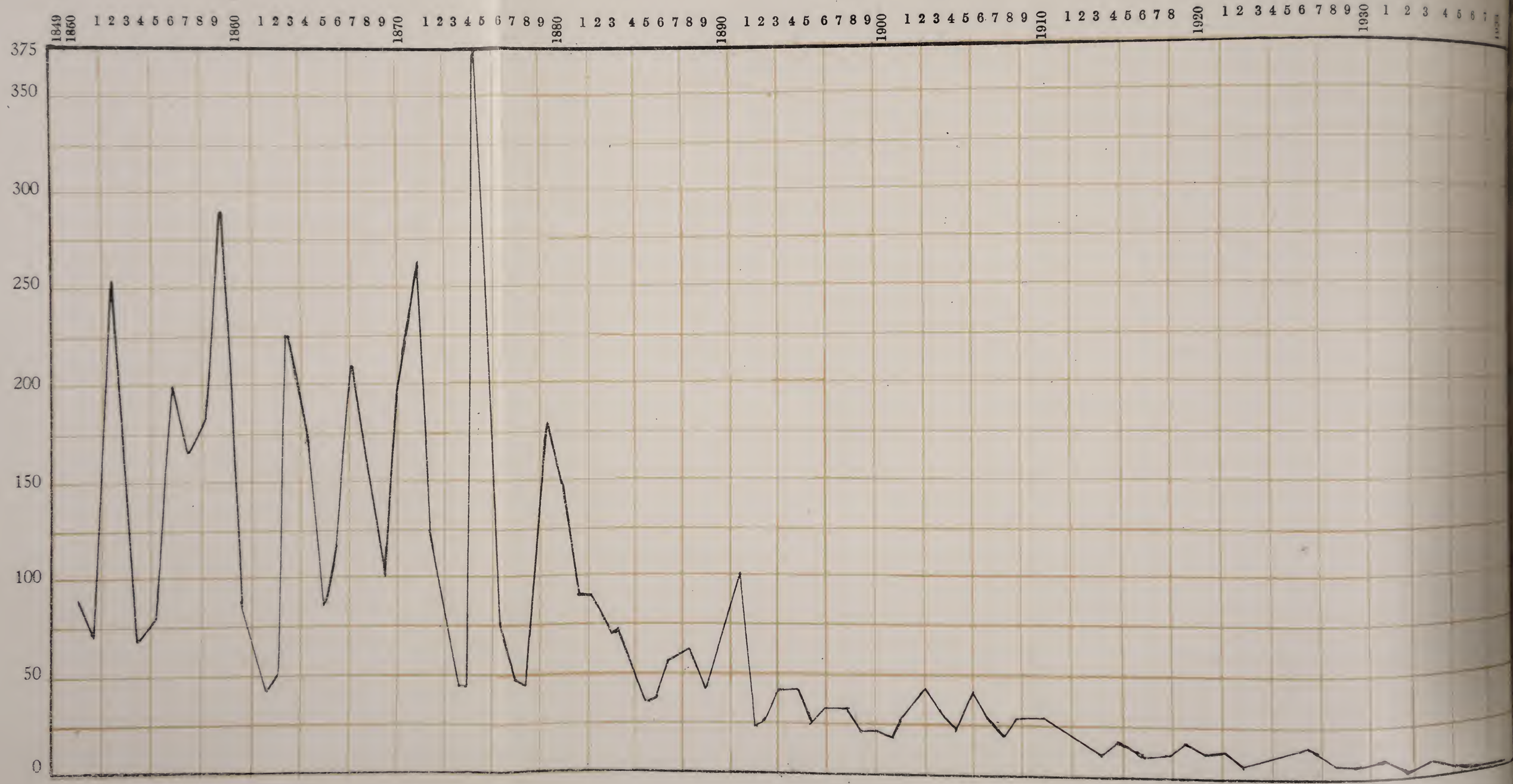
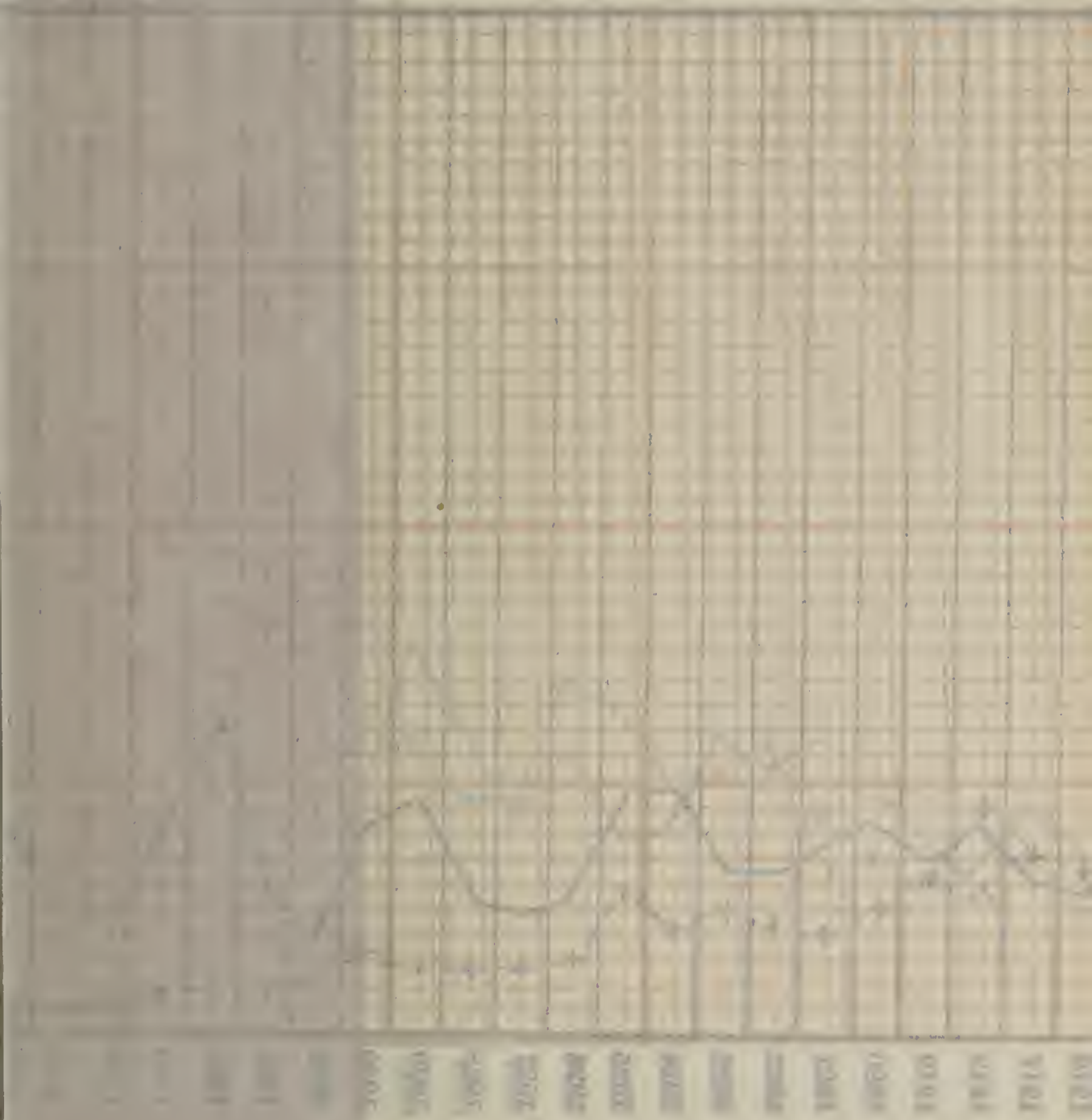
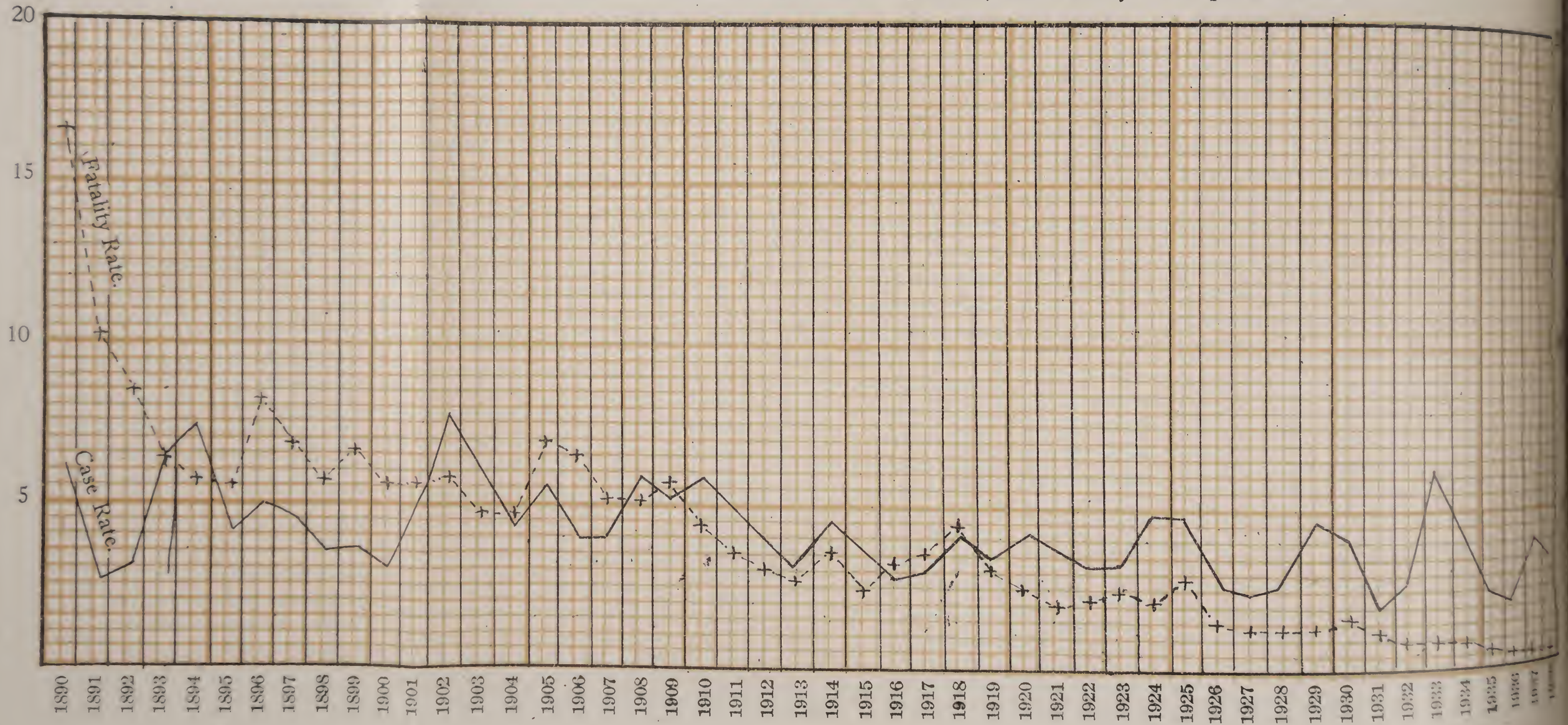
SCARLET FEVER 1849-1938 DEATH RATES PER 100,000 POPULATION.





CITY OF LIVERPOOL

Scarlet Fever 1890—1938. Case Rates per 1000 Population, and Fatality Rates per 100 Cases.



In Table XIV are given the numbers of cases of scarlet fever and of deaths from this disease during 1938 and also during nine previous years.

TABLE XIV.

SCARLET FEVER—CASES AND DEATHS DURING 1938 AND NINE PREVIOUS YEARS.

	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938
Cases ...	3,989	3,069	1,407	1,925	5,286	3,574	1,900	1,600	3,188	2,887
Case-rate per 1,000 inhabitants	4·6	3·5	1·6	2·2	6·1	4·1	2·2	1·8	3·7	3·3
Deaths ...	41	35	11	11	27	19	6	2	8	8
Death-rate per 100,000 inhabitants	4·7	4·0	1·2	1·3	3·1	2·2	0·7	0·2	0·9	0·9
Fatality rate per 100 cases	1·0	1·1	0·8	0·6	0·5	0·5	0·3	0·1	0·2	0·3

In Table XV are given details relating to ages at death, ages of notified cases and percentage fatality at various ages, etc. :—

TABLE XV.

DEATHS FROM SCARLET FEVER.

DISTRICTS.	Quarters. March.		June.		Sept.		Dec.		Year. 1938.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Exchange	...	...	...	...	...	...	...	...	...	...	...
Abercromby	...	...	...	...	...	...	...	...	...	...	...
St. Peter's	...	...	...	...	...	...	...	...	...	...	...
Toxteth Park	...	...	...	...	...	...	...	...	...	...	...
Edge Hill & Sefton Park	...	1	...	...	...	...	1	...	1	1	2
Wavertree	...	...	1	...	...	...	...	...	1	...	1
Fazakerley	2	...	...	...	...	...	...	...	2	...	2
Walton & Walton Park	...	...	...	...	...	2	...	...	...	2	2
Kirkdale	...	...	...	...	...	...	...	...	...	...	...
Netherfield	...	...	...	...	...	...	...	...	...	...	...
Everton	...	...	...	...	...	...	...	...	...	...	...
West Derby	1	...	...	...	...	...	...	...	1	...	1
City	3	1	1	...	...	2	1	...	5	3	8

Ages at Death.

Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	60—	All Ages.
...	2	...	1	...	...	2	1	1	1	...	...	...	8

Ages of Notified Cases.

13	91	140	199	253	1159	583	221	141	59	22	5	1	2,887
24·1%					40·1%	20·2%	15.6%						

Percentage Fatality at each age.

...	2·2	...	0·5	...	...	0·3	0·5	0·7	1·7	...	...	...	0·3

N.B.—Deaths in institutions are transferred to the districts from which the patients came.

Immunization against Diphtheria and Scarlet Fever.

The development of the scheme for inoculation against diphtheria and scarlet fever during the years 1925 to 1932 was described in the annual report for 1932. During 1933 to 1938 the work has been continued on similar lines, with the results for 1938 described in the tables which follow. It will facilitate description if inoculation against diphtheria and inoculation against scarlet fever are dealt with separately.

Inoculation against Diphtheria.

In Table XVI is given a numerical summary of the number of completed inoculations against diphtheria since 1925.

TABLE XVI.

NUMBER OF COMPLETED DIPHTHERIA INOCULATIONS.

here or by whom inoculated.	1925–28	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938
CULATION CLINICS :											
arnegie	—	—	68	366	572	333	422	405	367	237	196
ownsend Avenue	—	—	—	—	381	340	354	368	305	183	197
hild Welfare Centres	—	—	—	—	—	—	—	198	452	1119	1792
OOLS :											
ublic Elementary	—	—	—	153	3904	3895	4917	4001	6251	4855	6356
esidential	302	59	76	123	264	681	433	323	431	382	389
NICIPAL HOSPITALS :											
azakerley	—	31	116	493	635	1264	434	239	267	150	182
ever Hospitals—North, South and East	—	—	—	57	151	141	205	258	113	202	185
lder Hey	—	—	—	62	121	132	122	98	163	148	152
live Mount	—	—	38	—	174	277	92	49	24	41	56
ther Municipal Hospitals ...	—	—	—	—	—	—	81	34	92	80	86
cellaneous	259	93	171	190	272	173	38	15	5	19	4
lical Practitioners	—	—	15	99	173	135	123	128	78	85	71
TOTALS	561	183	484	1543	6647	7371	7221	6116	8548	7501	9666

GRAND TOTAL 55,841

In addition to the 9,666 persons, each of whom during 1938 received a complete course of diphtheria prophylactic, there were 862 persons who did not receive a full course of injections. In all probability these persons received from this incomplete treatment some degree of protection.

On two occasions the medical practitioners of Liverpool have been asked to avail themselves of the offer of diphtheria prophylactic provided free of charge by the Health Department, but the response has been very disappointing. During the year the work of private practitioners accounted for less than one per cent. of the total work accomplished, 71 persons treated out of a total of 9,666.

An analysis according to age of the persons who had completed a full immunization course is given in Table XVII.

TABLE XVII.

Age at date of inoculation.	1925-28	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	
Under 1 year ...	2	0	16	53	27	19	2	1	5	8	1	
1 year	4	0	35	150	183	187	213	211	359	595	908	
2 years ...	6	0	51	89	189	219	157	232	340	461	524	Total under 5 years of age at the end of 1938 : 4,925
3 years ...	11	1	60	82	189	246	164	222	259	367	433	
4 years ...	28	7	39	103	253	466	301	489	513	698	710	
5 years ...	48	13	26	112	1,224	1,375	1,637	1.541	2,297	1,658	2,286	
6 years ...	46	44	13	94	1,405	1,583	1,999	1,563	2,497	1,820	2,722	
7 years ...	24	44	15	99	1,048	1,357	1,222	872	1,211	823	1,110	Total 5-9 years of age at the end of 1938 : 27,142.
8 years ...	44	14	18	81	585	519	489	216	304	320	242	
9 years ...	38	9	21	86	351	266	157	100	75	110	99	
10 years and over ...	310	51	190	594	1,193	1,134	880	669	688	641	631	Total 10 years of age and over at the end of 1938 : 23.774

It is the children under 10 years of age who are the more important, and the greater the number of persons of this age who are immunized the better. One of the practical difficulties in this work is that of securing the immunization of a high proportion of infants under 5 years of age. Clearly, it is more valuable to the community to protect very young children than it is to protect older ones, having regard to the fact that children, as they grow older, tend to become immune as the result of repeated sub-infections, and also in view of the high fatality rates from diphtheria among children under 5 years of age shown in Table XII.

THE OCCURRENCE OF DIPHTHERIA IN INOCULATED PERSONS.

In Table XVIII are given the comparative case-rates during the six years ending 1938 among inoculated and non-inoculated persons.

TABLE XVIII.

DIPHTHERIA—COMPARATIVE CASE-RATES DURING 1933/38 AMONG INOCULATED AND NON-INOCULATED PERSONS IN LIVERPOOL.

Age.	Not Inoculated.			Inoculated.											
				T.A.F.			M.T. Toxoid.			F.T.			A.P.T.		
	Non-inoculated population at risk during 6 years 1933/38	Cases of diphtheria in non-inoculated persons during 1933/38	Case-rate per 1,000 p.a.	Inoculated population at risk during 6 years 1932/37	Cases of diphtheria during 1933/38	Case-rate per 1,000 p.a.	Inoculated population at risk during 6 years 1932/37	Cases of diphtheria during 1933/38	Case-rate per 1,000 p.a.	Inoculated population at risk during 5 years 1933/37	Cases of diphtheria during 1934/38	Case-rate per 1,000 p.a.	Inoculated population at risk during 3 years 1935/37	Cases of diphtheria during 1936/38	Case-rate per 1,000 p.a.
Under 1	103,740	162	1·57	43	0	Nil	3	0	Nil	5	0	Nil	7	0	Nil
1+	99,341	527	5·30	564	0	Nil	106	0	Nil	329	0	Nil	844	0	Nil
2+	96,176	1,037	10·78	1,117	0	Nil	305	0	Nil	610	0	Nil	956	0	Nil
3+	94,848	1,281	13·51	1,620	1	0·62	437	2	4·8	849	0	Nil	805	2	2·48
4+	92,296	1,415	15·33	2,472	2	0·81	579	2	3·45	1,210	1	0·83	1,344	4	2·98
5+	84,969	1,799	21·17	6,138	6	0·98	818	3	3·67	2,459	3	1·22	4,491	6	1·34
6+	77,268	1,574	20·37	11,678	12	1·03	1,044	2	1·91	2,349	5	2·13	6,843	23	3·36
7+	77,101	1,138	14·76	15,377	37	2·41	1,163	3	2·58	1,824	5	2·74	4,859	30	6·63
8+	82,648	862	10·43	16,365	38	2·32	1,208	2	1·65	419	5	11·9	1,989	16	8·04
9+	91,273	787	8·62	14,004	24	1·71	1,316	1	0·76	2	0	Nil	399	10	25·06
Total under 10	899,660	10,582	11·76	69,378	120	1·74	6,979	15	2·15	10,056	19	1·88	22,537	91	4·04
10+	4,132,504	4,708	1·14	39,480	71	1·79	11,747	11	0·94	0	0	Nil	46	1	21·74

TABLE XVIII.

DIPHTHERIA—COMPARATIVE CASE-RATES DURING 1933/38 AMONG INOCULATED AND NON-INOCULATED PERSONS IN LIVERPOOL.

Not Inoculated.				Inoculated.											
				T.A.F.			M.T. Toxoid.			F.T.			A.P.T.		
Age.	Non-inoculated population at risk during 6 years 1933/38	Cases of diphtheria in non-inoculated persons during 1933/38	Case-rate per 1,000 p.a.	Inoculated population at risk during 6 years 1932/37	Cases of diphtheria during 1933/38	Case-rate per 1,000 p.a.	Inoculated population at risk during 6 years 1932/37	Cases of diphtheria during 1933/38	Case-rate per 1,000 p.a.	Inoculated population at risk during 5 years 1933/37	Cases of diphtheria during 1934/38	Case-rate per 1,000 p.a.	Inoculated population at risk during 3 years 1935/37	Cases of diphtheria during 1936/38	Case-rate per 1,000 p.a.
Under 1	103,740	162	1·57	43	0	Nil	3	0	Nil	5	0	Nil	7	0	Nil
1+	99,341	527	5·30	564	0	Nil	106	0	Nil	329	0	Nil	844	0	Nil
2+	96,176	1,037	10·78	1,117	0	Nil	305	0	Nil	610	0	Nil	956	0	Nil
3+	94,848	1,281	13·51	1,620	1	0·62	437	2	4·8	849	0	Nil	805	2	2·48
4+	92,296	1,415	15·33	2,472	2	0·81	579	2	3·45	1,210	1	0·83	1,344	4	2·98
5+	84,969	1,799	21·17	6,138	6	0·98	818	3	3·67	2,459	3	1·22	4,491	6	1·34
6+	77,268	1,574	20·37	11,678	12	1·03	1,044	2	1·91	2,349	5	2·13	6,843	23	3·36
7+	77,101	1,138	14·76	15,377	37	2·41	1,163	3	2·58	1,824	5	2·74	4,859	30	6·63
8+	82,648	862	10·43	16,365	38	2·32	1,208	2	1·65	419	5	11·9	1,989	16	8·04
9+	91,273	787	8·62	14,004	24	1·71	1,316	1	0·76	2	0	Nil	399	10	25·06
Total under 10	899,660	10,582	11·76	69,378	120	1·74	6,979	15	2·15	10,056	19	1·88	22,537	91	4·04
10+	4,132,504	4,708	1·14	39,480	71	1·79	11,747	11	0·94	0	0	Nil	46	1	21·74

Schick tests performed during the year numbered 448, of which 111 were positive.

Inoculation against Scarlet Fever.

A numerical description of the number of persons inoculated against scarlet fever since 1927, the year in which this work commenced, is given in Table XIX, below.

TABLE XIX.

NUMBER OF COMPLETED SCARLET FEVER INOCULATIONS.

ere or by whom inoculated.	1927–28	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938
ULATION CLINICS:											
:negie	—	—	60	352	508	303	366	332	294	148	104
wnsend Avenue	—	—	—	—	395	323	313	315	244	127	85
:CIPAL HOSPITALS :											
zakerley	—	—	—	165	197	121	120	99	121	79	92
ver Hospitals—North, South ınd East	—	—	—	15	57	7	10	16	26	52	40
ler Hey	—	—	—	36	111	132	143	98	108	131	123
ve Mount	—	—	—	—	11	34	61	33	25	38	55
her Hospitals	—	—	—	—	—	—	—	29	86	71	76
DENTIAL SCHOOLS	79	28	31	26	218	465	478	202	294	108	143
ELLANEOUS	65	195	9	178	191	74	45	—	—	—	—
ICAL PRACTITIONERS ...	—	—	15	75	129	105	94	93	57	40	33
TOTALS	144	223	115	847	1817	1564	1630	1217	1255	794	751

GRAND TOTAL 10,357

The present scale of doses is 500, 2,000, 10,000 and 40,000 skin test doses at weekly or fortnightly intervals, usually combined with simultaneous inoculations against diphtheria.

During the year 206 Dick tests were carried out, of which 67 were positive.

Measles.

In Liverpool, measles is a disease which was notified on a voluntary basis until 9th May, 1937, when it was removed from the list of voluntarily notifiable diseases. During 1938, 3,006 cases were reported, 342 by notification from medical practitioners and 2,664 from schools, etc. The total number represents a case-rate of 3·5 per 1,000 of the population. The number of deaths was 111, making a fatality-rate of 3·7 per 100 cases and a mortality-rate of 12·8 per 100,000 of the population.

The epidemic of measles which commenced at the beginning of the last quarter of the year 1937, reached a peak at the end of the year and beginning of 1938, and was over by the end of the first quarter in 1938. The majority of the cases were not unduly severe.

In Table XX are given the numbers of cases of measles reported* and of deaths from this disease during 1938, and also during nine previous years.

TABLE XX.

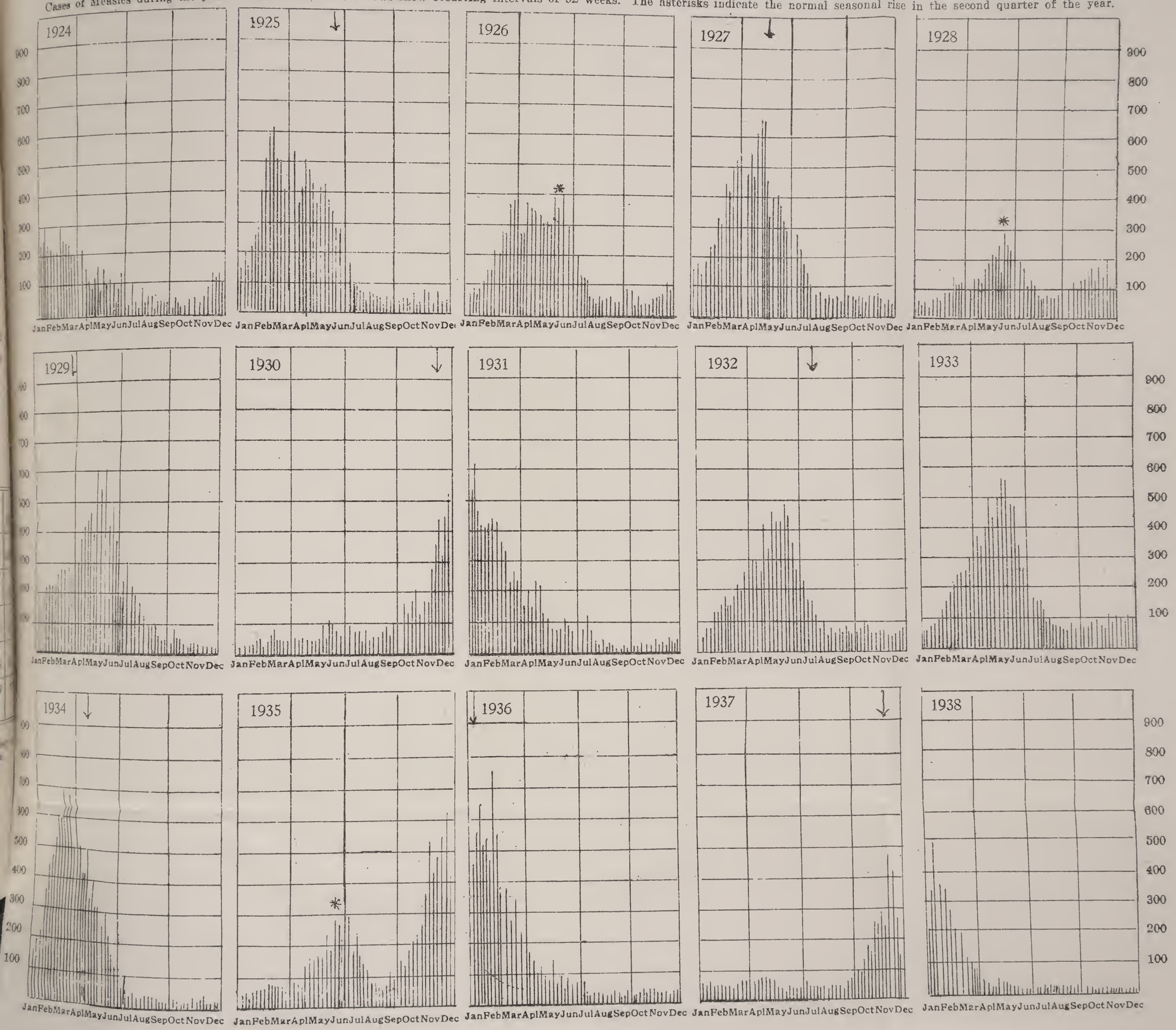
MEASLES—CASES AND DEATHS DURING 1938 AND NINE PREVIOUS YEARS.

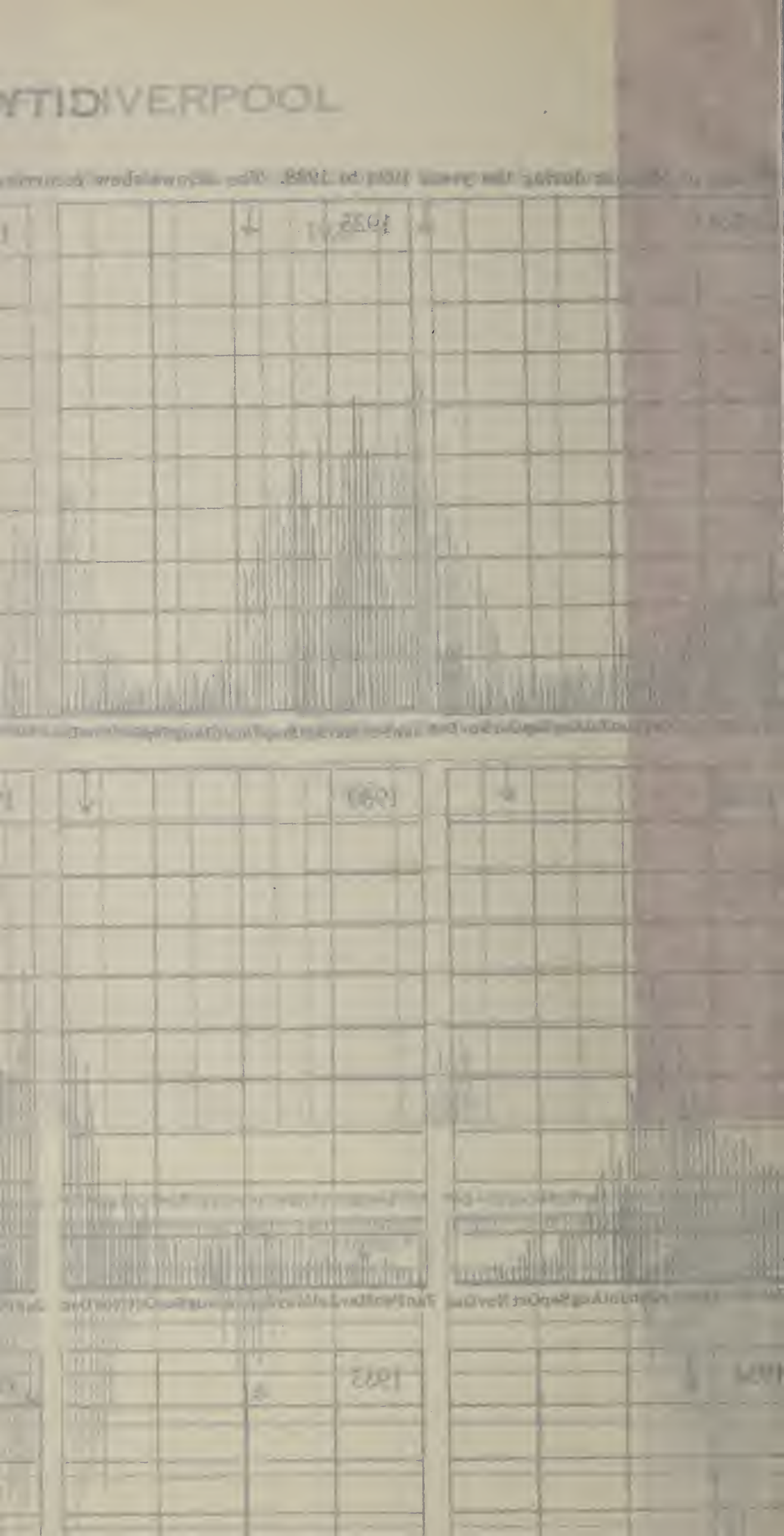
	1929	1930	1931	1932	1933	1934	1935	1936	1937	1
Cases	10,546	5,966	7,572	8,816	10,004	11,055	8,907	7,240	4,108	3,
Case rate per 1,000 inhabitants	13·19	6·78	8·84	10·23	11·55	12·76	10·27	8·35	4·74	:
Deaths	427	170	369	312	299	229	154	176	120	
Death rate per 100,000 inhabitants	50·1	19·3	43·1	36·2	34·5	26·4	17·8	20·3	13·8	
Fatality rate per 100 cases	4·0	2·8	4·9	3·5	3·0	2·0	1·7	2·4	2·9	

* The voluntary notification of measles ceased on 9th May, 1937. Caution is necessary drawing conclusions from the figures relating to cases and fatality-rates subsequent to that date.

CITY OF LIVERPOOL

Cases of Measles during the years 1924 to 1938. The arrows show recurring intervals of 92 weeks. The asterisks indicate the normal seasonal rise in the second quarter of the year.

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In Table XXI are given details relating to ages at death, ages of cases and percentage fatality at various ages, etc.

TABLE XXI.

DEATHS FROM MEASLES.

DISTRICTS.	Quarters. March		June.		Sept.		Dec.		Year 1938.			Death Rates per 100,000 Population.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.	
Exchange	8	4	...	...	...	...	...	...	8	4	12	25·3
Abercromby	2	3	2	...	...	...	...	...	4	3	7	30·2
St. Peter's	5	5	1	...	...	...	...	...	6	5	11	21·7
Toxteth Park	3	5	...	1	...	...	...	...	3	6	9	10·0
Edge Hill and Sefton Pk.	7	8	1	1	...	...	...	...	8	9	7	15·3
Wavertree	5	4	1	1	...	...	...	...	6	5	11	10·1
Fazakerley	3	2	...	1	...	...	...	...	3	3	6	8·3
Walton and Walton Park	2	4	...	1	...	...	...	...	2	5	7	7·6
Kirkdale	6	12	...	...	...	...	...	...	6	12	18	30·3
Netherfield	3	...	...	...	...	...	...	...	3	...	3	4·2
Everton	1	1	...	...	...	...	...	...	1	1	2	7·1
West Derby	4	4	...	...	...	...	...	...	4	4	8	7·3
City	49	52	5	5	...	...	...	...	54	57	111	12·8

Ages at Death.

Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	60—	All Ages.
25	46	17	10	4	9	...	...	...	...	...	...	...	111

Ages of Cases.

210	357	351	328	350	969	417	24						3006

Percentage Fatality at Each Age.

1·9	12·9	4·8	3·0	1·1	0·9	...	...						3·7

N.B.—Deaths in public institutions are transferred to the districts from which the patients came.

The mortality in measles depends mainly upon the age at which infection occurs. As shown in Table XXI, 88 out of 111 deaths were in children under 3 years of age.

An Order of the Ministry of Health authorises local authorities to provide medical assistance including nursing for the poorer inhabitants of their district, and two nurses of the Health Visitors' Staff are engaged on this work, assisted by other members of the staff as occasion requires. In consequence of the visits of these nurses, many children have benefited from the assistance and advice given, and in some instances children have been removed for hospital treatment who would otherwise have been left at home without adequate care or attention. The visits, etc., made by these nurses in the course of 1938 were as follows:—

New cases visited during the year			...	...	2,890
Cases nursed	,,	,,	...	...	489
Re-visits to cases	,.	,,	...	...	3,615

During 1938, 411 patients were admitted to hospital out of the 3,006 which came to the notice of the Health Department, an admission rate of 13·7 per cent.

Whooping Cough.

As whooping cough is not compulsorily notifiable, caution is necessary in drawing conclusions from the figures relating to cases and fatality-rates. During 1938, 1,017 cases came to the notice of the Health Department, a figure representing a case-rate of 1·2 per 1,000 of the population. Of these cases 104 proved fatal, corresponding to a death-rate of 12·0 per 100,000 of the population.

In Table XXII are given the numbers of cases of whooping cough and deaths from this disease during 1938 and also during nine previous years.

TABLE XXII.

WHOOPING COUGH—CASES AND DEATHS DURING 1938 AND NINE PREVIOUS YEARS.

Years.	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938
Cases	1876	1147	2267	1596	987	2437	1044	931	1229	1017
Deaths	198	75	189	148	93	172	62	105	122	104
Death rate per 100,000 of the population ...	22·8	8·5	22·1	17·2	10·7	19·9	7·1	12·1	14·1	12·0
Percentage of deaths to cases ...	10·5	5·5	8·3	9·3	9·4	7·0	5·9	11·3	9·9	10·2

Whooping cough is extremely fatal in the first two or three years of life and it is of the greatest importance that children of tender years be protected from possible sources of infection.

The considerable decline in the mortality from whooping cough during the last 89 years is shown in Table XXIII.

TABLE XXIII.

WHOOPING COUGH—AVERAGE DEATH-RATE PER 100,000 INHABITANTS FROM 1850 TO 1938.

Year.	Average death-rate per 100,000.
1850-59	103·6
1860-69	107·3
1870-79	86·8
1880-89	72·9
1890-99	56·3
1900-09	45·0
1910-19	32·6
1920-29	23·4
1930	8·5
1931	22·1
1932	17·2
1933	10·7
1934	19·9
1935	7·1
1936	12·1
1937	14·1
1938	12·0

Table XXIV shows the deaths divided by ages and by the districts of residence. It will be noted that the deaths are mainly in very young children, and that high rates of mortality from whooping cough are still experienced in the central districts of the city.

TABLE XXIV.

DEATHS FROM WHOOPING COUGH. 1938.

Districts.	At Ages						All ages.	Death Rates per 100,000 population.
	Under 1 yr.	1+	2+	3+	4+	5+		
1. Exchange	8	4	—	1	—	—	13	27.4
2. Abercromby	1	—	1	—	—	—	2	8·6
3. St. Peter's	1	4	—	2	—	—	7	13·8
4. Everton	1	2	—	—	—	—	3	10·6
5. Netherfield	3	6	1	1	—	—	11	15·3
6. Kirkdale	6	—	1	2	—	—	9	15·2
7. Edge Hill & Sefton Park	4	6	1	5	1	—	17	15·3
8. Toxteth Park	6	3	3	—	1	—	13	14·4
9. Walton & Walton Park	1	5	—	—	—	—	6	6·5
10. West Derby	4	1	1	—	—	—	6	5·5
11. Wavertree	3	1	1	—	—	—	5	4·6
12. Fazakerley	5	5	1	—	—	1	12	16·6
Central Districts (1 to 3)	10	8	1	3	—	—	22	18·1
Middle Districts (4 to 9)	21	22	6	8	2	—	59	13·0
Outer Districts (10 to 12)	12	7	3	—	—	1	23	7·9
Whole City	43	37	10	11	2	1	104	12·0

From Table XXV it will be observed that there has been a considerable variation in the age distribution of the deaths in the sixty-seven years under review. In 1871 there was a high proportion—45 per cent. of the total in the first year of life, but there were no deaths at ages 5 years and upwards. For the next 20 years there was a higher proportion in the third year of life, but subsequently the proportion has tended to be higher in the first two years of life; in 1932, for example, 90 per cent. of the deaths occurred in these two years.

TABLE XXV.

DEATHS FROM WHOOPING COUGH AT THE VARIOUS AGES FOR THE YEARS 1871, 1881, 1891, 1901 and 1911, and 1921-1938.

	Number of Deaths at the various Age Periods.							Total Deaths all ages.	Deaths expressed as a Percentage of Total Deaths.						
	under 1 year.	1+	2+	3+	4+	5+	10+		under 1 year.	1+	2+	3+	4+	5+	10+
1871	234	163	110	11	1	0	0	519	45	32	21	2	0	0	0
1881	135	130	120	17	0	0	0	402	34	32	30	4	0	0	0
1891	163	123	129	23	0	0	0	438	37	28	30	5	0	0	0
1901	63	58	20	15	2	8	0	166	38	35	12	9	1	5	0
1911	88	96	28	20	9	5	0	246	36	39	11	8	4	2	0
1921	68	98	19	15	3	7	0	210	32	47	9	7	2	3	0
1922	79	65	23	8	2	5	0	182	43	36	13	4	1	3	0
1923	68	56	15	8	6	3	0	156	44	36	9	5	4	2	0
1924	69	70	16	7	5	2	0	169	41	41	10	4	3	1	0
1925	82	88	21	22	8	6	0	227	36	39	9	9	4	3	0
1926	77	68	23	9	7	4	0	188	41	36	12	5	4	2	0
1927	47	43	18	8	6	3	0	125	38	35	14	6	5	2	0
1928	108	105	37	11	8	0	0	269	40	39	14	4	3	0	0
1929	78	72	22	9	7	9	1	198	39	37	11	5	3	5	0.5
1930	36	25	11	2	0	1	0	75	48	33	15	3	0	1	0
Average, 21/30 ...	71	69	20	11	5	4	0	180	40	38	12	5	3	2	0
1931	92	54	22	7	4	10	0	189	49	28	12	4	2	5	0
1932	73	61	7	5	1	1	0	148	49	41	5	3	1	1	0
1933	39	37	6	7	3	1	0	93	42	40	6	8	3	1	0
1934	59	67	29	10	3	4	0	172	34	39	17	6	2	2	0
1935	27	19	6	7	2	1	0	62	43	31	10	11	3	2	0
Average, 31/35 ...	58	48	14	7	3	3	0	133	44	36	10	6	2	2	0
1936	40	42	13	7	3	0	0	105	38	40	12	7	3	0	0
1937	61	33	15	8	3	2	0	122	50	29	12	6	2	1	0
1938	43	37	10	11	2	1	0	104	41	35	10	11	2	1	0

Cerebro-spinal Fever.

Seventy-six cases of cerebro-spinal fever occurred during 1938, of which 37 (or 48·7 per cent.) proved fatal, making a death-rate of 4·3 per 100,000 of the population. Sixty-eight (or 90 per cent.) of the cases were confirmed bacteriologically, and in the remainder, there was clinical evidence of this disease.

In Table XXVI are given the numbers of cases of cerebro-spinal fever and of deaths from this disease during 1938, and also during nine previous years.

TABLE XXVI.

CEREBRO-SPINAL FEVER—CASES AND DEATHS DURING 1938 AND NINE PREVIOUS YEARS.

	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938
Cases	23	21	57	76	64	69	69	94	94	76
Deaths	21	17	47	47	45	37	33	55	47	37
Fatality-rate per 100 cases	91·3	81·0	82·4	61·8	70·3	53·6	48·1	58·5	50·0	48·7

Details of the results of treatment of cases of cerebro-spinal fever are given in the sectional report on hospital administration.

Encephalitis Lethargica.

During 1938, 18 cases of encephalitis lethargica were notified to the Health Department for the first time. In all of these cases the illness had passed the acute stage and become chronic. There were certified 18 deaths from encephalitis lethargica, seven of which occurred among the chronic cases reported during the year, the remaining 11 deaths being those of chronic cases reported in previous years.

In Table XXVII are given the numbers of cases of encephalitis lethargica and of deaths from this disease during 1938 and also during nine previous years.

TABLE XXVII.

ENCEPHALITIS LETHARGICA—CASES AND DEATHS DURING 1938 AND NINE PREVIOUS YEARS.

	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938
CASES:										
Acute	28	27	35	4	4	7	2	1	0	0
Chronic				17	26	23	23	22	16	18
DEATHS in										
Acute cases	26	18	26	2	1	4	—	0	0	0
Chronic cases ...				13	20	9	22	14	5	7
Fatality-rate per 100 acute cases ...	—	—	—	50·0	25·0	57·1	—	—	—	—

Acute Anterior Poliomyelitis (Infantile Paralysis.)

During 1938, 10 cases of poliomyelitis were notified, three of which proved fatal. The cases were distributed through the year as follows:—January—1 case, February—1 case, August—1 case, November—6 cases, December—1 case. The notification of cases of poliomyelitis is undoubtedly very incomplete owing to the difficulties in diagnosis in respect of cases which do not proceed to the paralytic stage.

In Table XXVIII are given the numbers of cases of poliomyelitis and of deaths from this disease during 1938, and also during nine previous years.

TABLE XXVIII.

ACUTE POLIOMYELITIS—CASES AND DEATHS DURING 1938 AND NINE PREVIOUS YEARS.

	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938
Cases	23	14	7	25	10	9	3	15	6	10
Deaths	10	6	4	11	3	3	0	1	0	3
Percentage of deaths to notified cases ...	43·5	42·8	57·1	44·0	30·0	33·3	—	6·7	—	30·0

Influenza and other Respiratory Diseases.

The mortality from respiratory diseases varies greatly from year to year being influenced by weather conditions and also by the prevalence of such diseases as influenza, measles and whooping cough.

At the end of the year there was an increase in the number of deaths from influenza as indicated in Table XXX, nine deaths being recorded from this disease during the week ended 24th December and twelve deaths during the last week in December. This was the beginning of a minor epidemic of influenza which reached its maximum in January, 1939.

In Table XXIX are given the average annual number of deaths due to respiratory diseases from 1871 to 1938, the percentage proportion of respiratory deaths to all deaths, the respiratory death-rate per 1,000 of the population and, finally, a comparison of the respiratory death-rate since 1880 with the average rate experienced in 1871-80 which has been called 100.

TABLE XXIX.

DEATHS FROM RESPIRATORY DISEASES (INCLUDING INFLUENZA).

	Yearly average number of deaths.	Percentage proportion to all deaths.	Respiratory death-rate per 1,000 population.	Death-rates compared with the 1871-80 death-rate called 100.
1871-80 ...	2,976	20·2	5·7	100
1881-90 ...	3,251	23·2	5·9	104
1891-1900 ...	3,582	24·6	5·9	104
1901-10 ...	3,299	21·8	4·5	79
1911-20 ...	3,648	27·3	4·7	83
1921-30 ...	2,904	24·7	3·5	61·4
1931... ...	2,397	19·6	2·8	49·1
1932... ...	1,905	16·7	2·2	38·6
1933... ...	2,466	19·8	2·8	49·1
1934... ...	1,792	15·8	2·1	36·8
1935... ..	1,879	16·4	2·2	38·6
1936... ...	1,489	13·3	1·7	29·6
1937... ...	1,591	13·9	1·8	31·6
1938... ...	1,235	11·6	1·4	24·6

There has been a striking decline of the respiratory death-rate to a figure which is only 24·6 per cent. of the rate which prevailed during the years 1871-80.

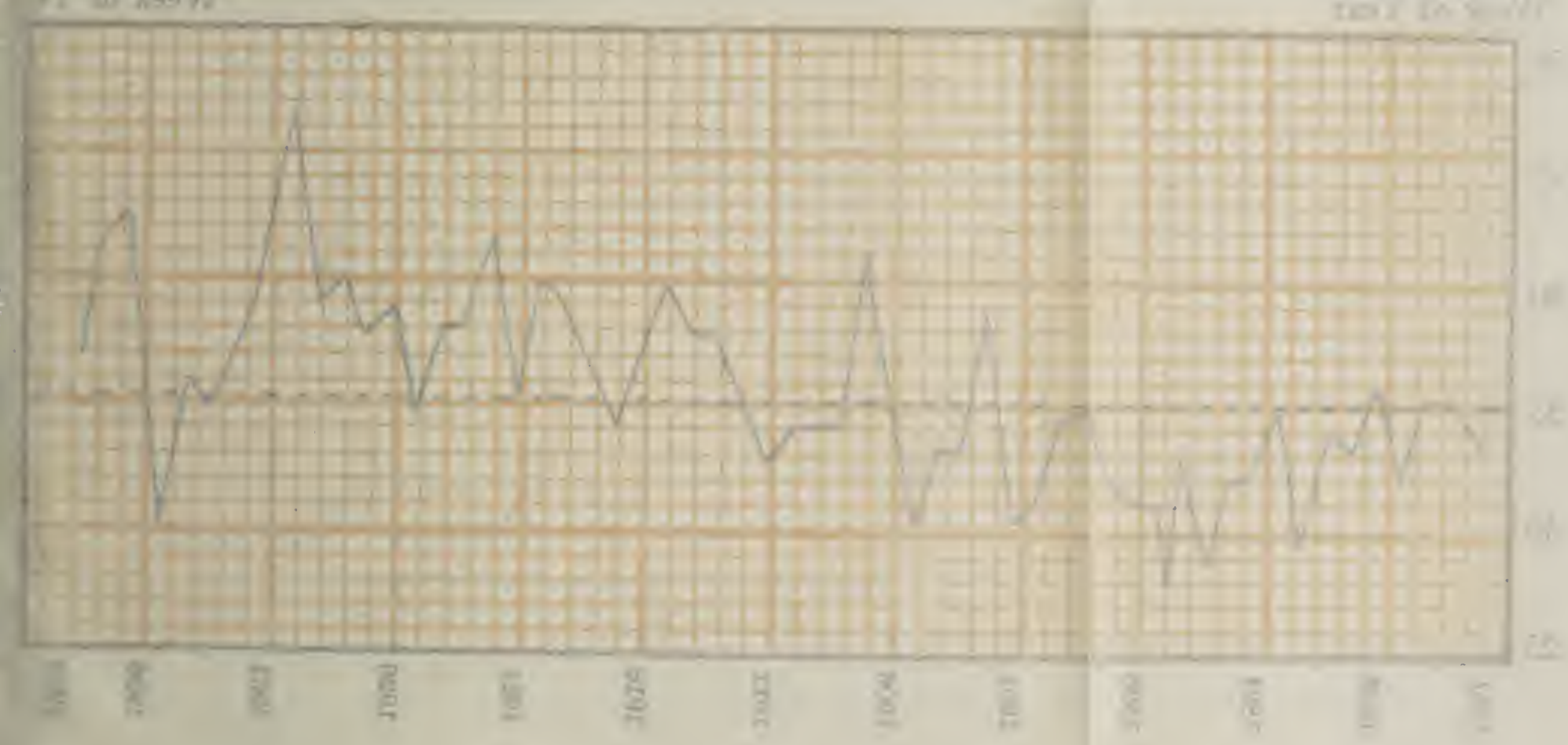
In Table XXX are shown the number of deaths from all causes, the number of deaths from influenza, pneumonia and bronchitis, and the total number of respiratory deaths which occurred week by week during 1938. These figures do not include the deaths of Liverpool residents which occurred outside the city.

TABLE XXX.

WEEKLY DEATHS FROM RESPIRATORY DISEASES (INCLUDING INFLUENZA).

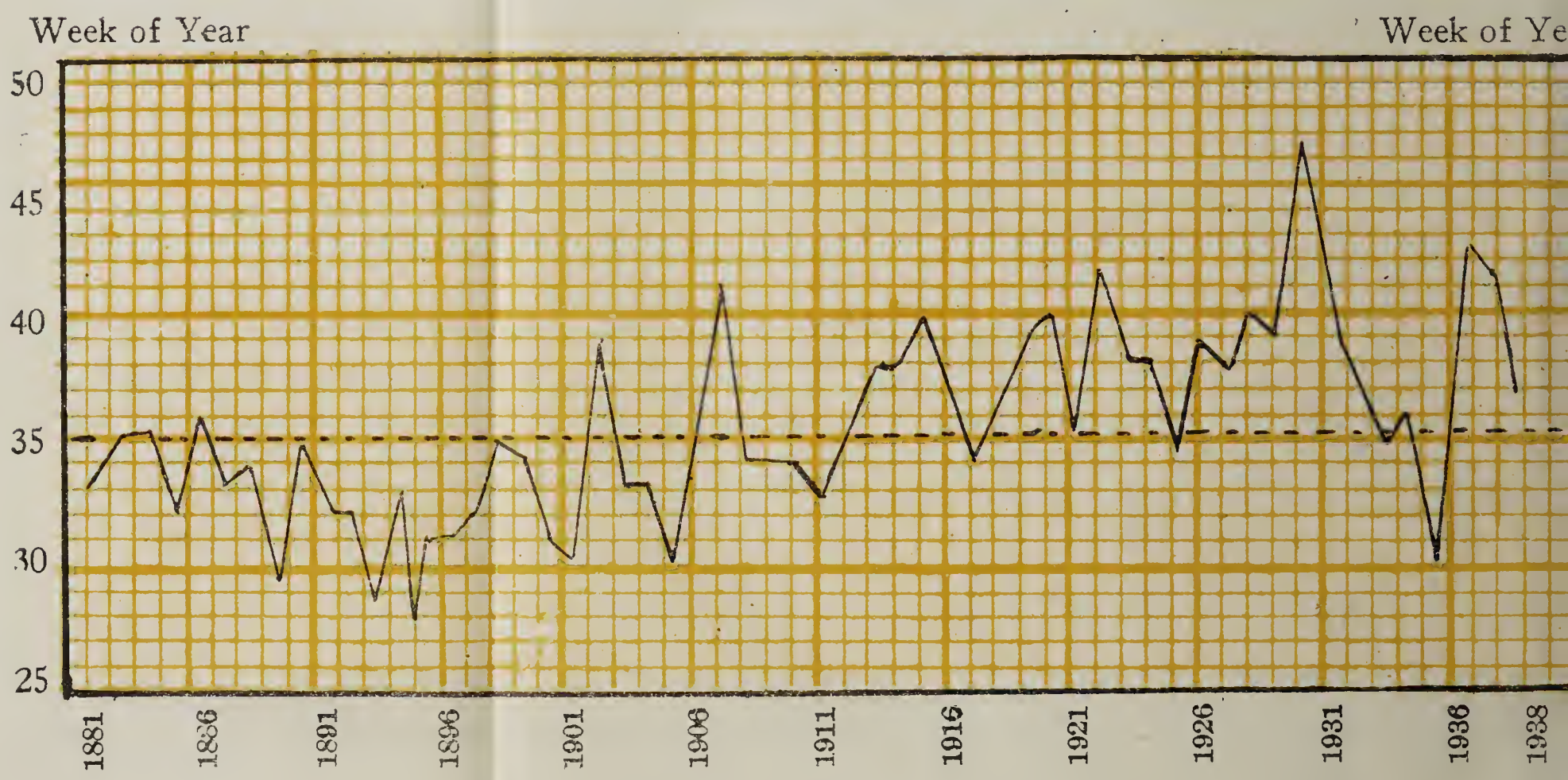
1938. Week ended.	Total Deaths (all causes).	Weekly Death-rate per 1,000 of Estimated Population.	Number of Deaths from				Percentage proportion of Respiratory Deaths to Total Deaths.
			Influenza.	Pneumonia and Broncho-pneumonia.	Bronchitis.	Total Res. piratory Deaths.	
Jan. 8	313	18·9	5	36	15	52	16·6
,, 15	302	18·2	—	42	10	55	18·2
,, 22	261	15·8	1	29	6	37	14·1
,, 29	224	13·5	1	23	5	29	12·9
Feb. 5	241	14·6	1	20	5	29	12·0
,, 12	229	13·8	1	20	5	26	11·3
,, 19	228	13·8	—	25	4	32	14·0
,, 26	257	15·5	2	26	4	34	13·2
Mar. 5	251	15·2	1	14	12	30	11·9
,, 12	257	15·5	2	27	6	35	13·6
,, 19	193	11·7	2	14	7	22	11·4
,, 26	206	12·4	1	20	5	26	12·6
April 2	210	12·7	—	10	2	13	6·1
,, 9	188	11·4	2	15	3	18	9·5
,, 16	205	12·3	2	18	3	22	10·7
,, 23	216	13·0	4	20	5	25	11·5
,, 30	211	12·7	—	12	6	21	9·9
May 7	191	11·5	—	16	2	21	10·9
,, 14	220	13·3	1	27	3	32	14·5
,, 21	217	13·1	1	15	3	19	8·7
,, 28	187	11·3	1	18	4	24	12·8
June 4	183	11·0	3	28	—	30	16·4
,, 11	197	11·9	1	18	5	24	12·1
,, 18	188	11·4	2	17	6	25	13·3
,, 25	189	11·4	—	9	6	16	8·5

1938. Week-ended.	Total Deaths (all causes).	Weekly Death-rate per 1,000 of Estimated Population.	Number of Deaths from				Percentage proportion of Respiratory Deaths to Total Deaths.
			Influenza.	Pneumonia and Broncho-pneumonia.	Bronchitis.	Total Respiratory Deaths.	
July 2	170	10·3	1	8	3	12	7·0
,, 9	161	9·7	—	18	1	20	12·4
,, 16	182	11·0	3	14	3	19	10·4
,, 23	147	8·9	—	5	1	8	5·4
,, 30	146	8·8	—	6	2	9	6·1
Aug. 6	150	9·1	—	2	3	5	3·3
,, 13	145	8·8	—	14	—	14	9·6
,, 20	152	9·2	—	5	2	7	4·6
,, 27	161	9·7	—	10	1	13	8·0
Sept. 3	155	9·4	—	6	1	8	5·1
,, 10	162	9·8	—	7	6	16	9·8
,, 17	168	10·1	—	12	—	15	8·9
,, 24	140	8·5	1	11	1	13	9·2
Oct. 1	150	9·1	3	6	1	7	4·6
,, 8	168	10·1	—	14	1	16	9·5
,, 15	193	11·7	—	7	4	11	5·2
,, 22	159	9·6	1	8	2	10	6·2
,, 29	154	9·3	1	7	—	8	5·2
Nov. 5	162	9·8	—	8	3	11	6·7
,, 12	169	10·2	1	5	2	9	5·3
,, 19	160	9·7	1	5	4	9	5·6
,, 26	176	10·6	1	13	1	14	7·9
Dec. 3	184	11·1	—	14	7	22	11·9
,, 10	207	12·5	2	20	7	27	13·0
,, 17	187	11·3	2	24	3	30	16·0
,, 24	252	15·2	9	25	7	33	13·1
,, 31	350	21·1	12	46	18	71	20·3



CITY OF LIVERPOOL

Graph showing for each of the 58 years 1881-1938 the week in which the maximum number of deaths from Diarrhœal Diseases was recorded. This Graph shows the progressive retardation of the height of the seasonal wave, a retardation which has occurred concurrently with the great decline and virtual extinction of Diarrhœa, as a cause of death.



Dysentery.

During 1938, 41 cases of bacillary dysentery were reported in the city, of which 17 cases were due to Flexner's bacillus and 19 cases to Sonne's bacillus. In addition, 3 cases of bacillary dysentery and one case of amœbic dysentery were brought into the Port of Liverpool from overseas.

Diarrhoea and Enteritis.

During 1938, there were 149 deaths recorded from diarrhœa and enteritis at all ages, of which number 121 were in children under two years of age and 114 were in children under one year old. The deaths of 121 children under two years of age represent a mortality-rate of 3·7 per 1,000 births taking place in the city during the last two years. This figure represents a decrease of 53 deaths compared with the previous year. Enquiries into these fatal cases have been carried out by the health visitors, and an account of their investigations will be found on page 111.

Formerly many deaths occurred from an acute infective disease or group of diseases of which the predominating symptoms were an acute onset with diarrhœa and vomiting, often preceded by convulsions, and terminating rapidly in children under two years of age. This disease assumed the form of an annually recurring summer epidemic, which had a well-marked maximum in August or September. This influence is still operative, though to a much lesser degree. (See chart facing this page.)

The importance of flies as carriers of this infection is referred to in a later paragraph on page 75, and a description of the steps taken to deal with the breeding places of flies occurs on page 203.

The mortality in the several districts of the city is shown in Table XXXI.

TABLE XXXI.

DIARRHOEA AND ENTERITIS.—MORTALITY-RATE IN CHILDREN UNDER 2 YEARS OF AGE.

	Registered births 1937-38	Number of deaths in 1938	Death-rate per 1,000 births registered during 1937 and 1938
Exchange	2,581	12	4·6
Abercromby	750	6	8·0
St. Peter's	2,501	12	4·8
Toxteth Park	3,801	12	3·2
Edge Hill and Sefton Park ...	3,742	14	3·7
Wavertree	3,537	12	3·4
Fazakerley	2,671	9	3·4
Walton and Walton Park ...	2,538	9	3·5
Kirkdale	2,546	11	4·3
Netherfield	3,208	12	3.7
Everton	1,133	5	4·4
West Derby	38,95	7	1·8
	32,903	121	3·7

NOTE.—All deaths occurring in public institutions have been transferred to the districts from which the patients came.

A comparison of the mortality-rate during 1938 in children under 2 years of age with the mortality-rates during the previous nine years is given in Table XXXII.

TABLE XXXII.

DIARRHOEA AND ENTERITIS—MORTALITY RATES DURING 1938 AND NINE PREVIOUS YEARS.

	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938
Mortality rate per 1,000 births in year of record and preceding year ...	9·9	10·3	7·2	7·2	9·2	4·4	5·8	3·7	5·1	3.7

Of the 121 deaths under 2 years of age, 91 took place in public institutions as shown in Table XXXIII.

TABLE XXXIII.

DEATHS FROM DIARRHOEA AND ENTERITIS UNDER TWO YEARS OF AGE IN INSTITUTIONS DURING 1938.

Alder Hey Hospital	48
David Lewis Northern Hospital	1
Royal Liverpool Children's Hospital	33
Royal Southern Hospital	1
Walton Hospital	2
Royal Liverpool Babies Hospital	2
Garston Hospital	1
Belmont Road Institution	3
	91

The reduction in the number of deaths at Alder Hey Hospital is most noticeable; in the year 1929 there were 218 deaths from diarrhœa in this hospital.

In Table XXXIV are given details relating to the districts in which deaths from diarrhœa and enteritis took place, the ages at death and the distribution of the deaths over the four quarters of the year.

TABLE XXXIV.

DEATHS FROM DIARRHOEA AND ENTERITIS (UNDER TWO YEARS).

DISTRICTS.	Quarters.								Year 1938.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M	F.	M.	F.	Total
Exchange	1	1	...	1	2	2	...	5	3	9	12
Abercromby	...	1	1	...	...	1	2	1	3	3	6
St. Peter's	2	3	1	3	1	...	1	1	5	7	12
Toxteth Park	3	1	...	...	2	2	3	1	8	4	12
Edge Hill & Sefton Park	2	3	...	1	...	2	6	...	8	6	14
Wavertree	2	...	1	1	3	3	...	2	6	6	12
Fazakerley	2	1	3	1	1	...	1	...	7	2	9
Walton & Walton Park	2	1	2	...	1	...	2	1	7	2	9
Kirkdale	2	2	1	...	2	2	1	1	6	5	11
Netherfield	2	1	...	1	3	2	...	3	5	7	12
Everton	2	...	...	...	1	...	...	2	3	2	5
West Derby	...	...	2	...	2	...	2	1	6	1	7
City	20	14	11	8	18	14	18	18	67	54	121

Ages at death.

Under 1 year	114
1 to 2 years	7
Total	121

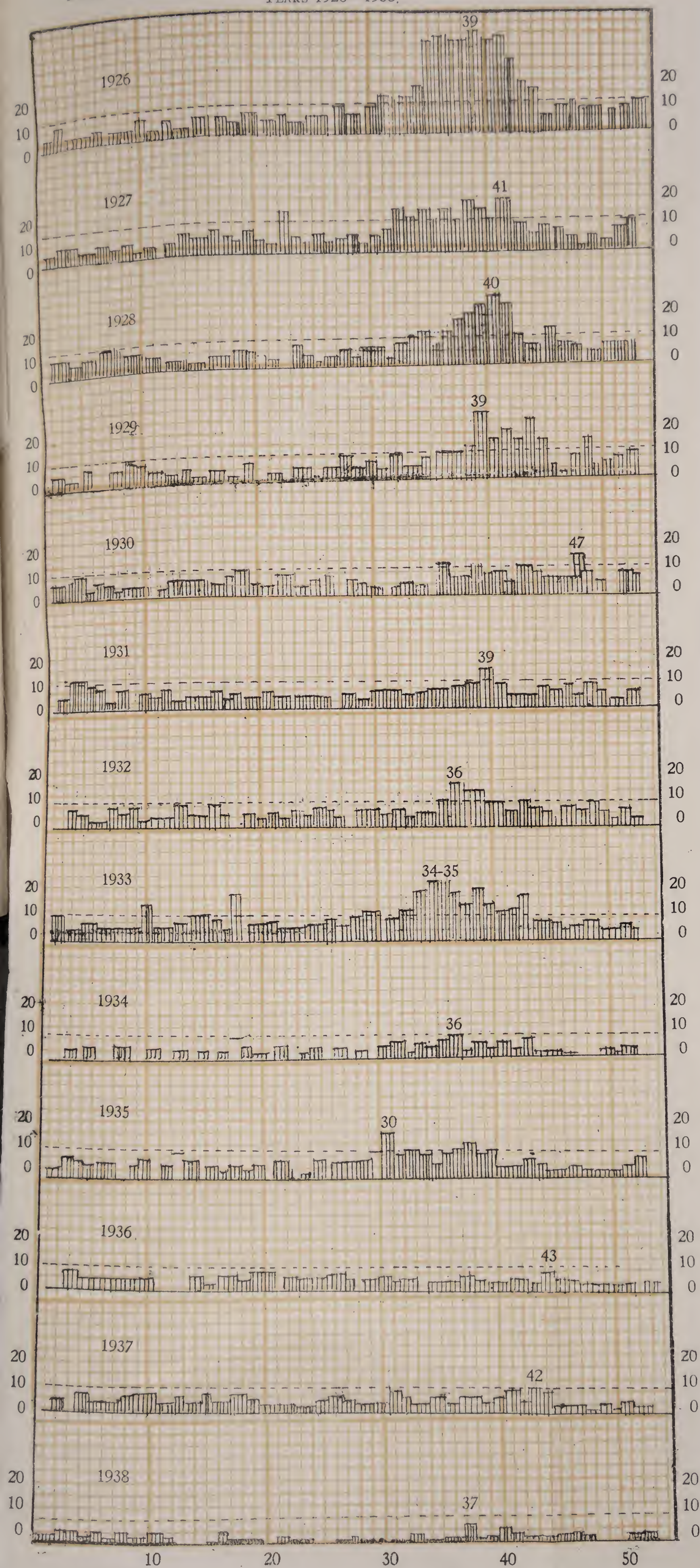
Deaths from diarrhoea and enteritis separately.

	Quarters.				Year.
	1st.	2nd.	3rd.	4th.	
Diarrhœa	3	3	2	2	10
Enteritis	31	16	30	34	111
Total	34	19	32	36	121

N.B.—Deaths in public institutions are transferred to the districts from which the patients came.

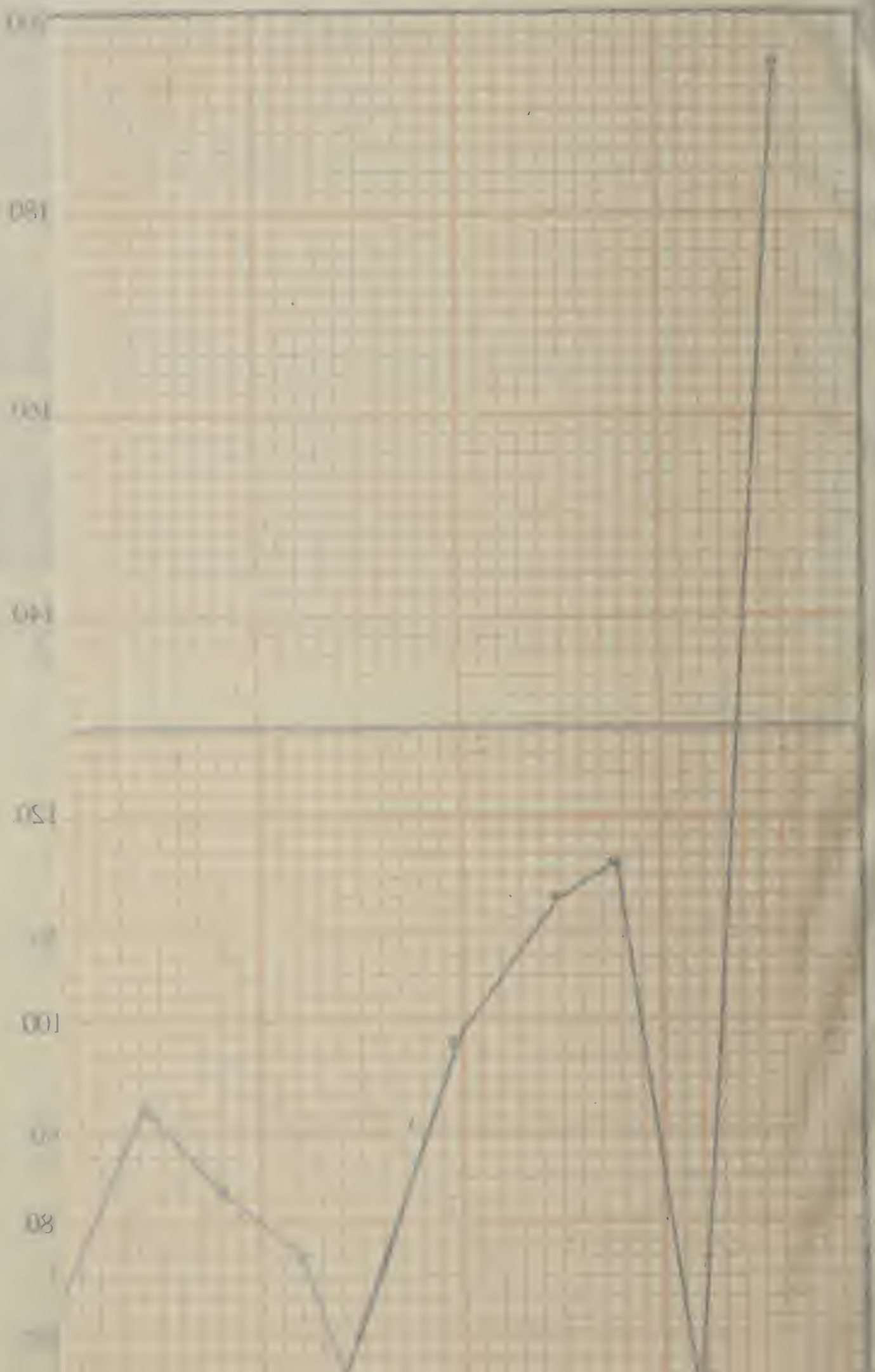
CITY OF LIVERPOOL

DEATHS FROM DIARRHŒA & ENTERITIS (UNDER 2 YEARS OF AGE) DURING THE YEARS 1926—1938.



CITY OF LIVERPOOL

DIARRHŒA AND ENTERITIS (UNDER 2 YEARS OF AGE) DEATH RATES PER 100,000 POPULATION, 1911—1938.



The experience of many years points strongly to the importance of flies as carriers of infection. Collections of stable manure form the most important breeding places for these insects. Regular visits of inspection are paid to stables, and the occupiers are told of the desirability of regular weekly removals of manure.

Public Health (Infectious Diseases) Regulations, 1927.

The following statement shows the number of notifications received under the regulations and the number of deaths during 1937 and 1938:—

	1937.		1938.	
	Cases.	Deaths.	Cases.	Deaths.
Acute Pneumonia	1,940	1,170	1,515	871
Malaria	138	6	123	3
Dysentery	77	7	41	6
	2,155	1,183	1,679	880

Enquiries were made into all these cases; 502 cases of pneumonia were visited by nurses appointed for the purpose, 25 re-visits being made.

Infectious Diseases in Schools.

There was a marked decrease in the number of cases of infectious disease reported amongst children of school age during the year; 6,232 cases, a decrease of 2,097 being reported as against 13,146, 13,624, 10,485, 7,867 and 8,329 for the years 1933 to 1937 respectively.

This decrease was shared by all the infectious diseases. Measles showed a reduction of 642 cases and chickenpox 591 cases, while there was a reduction of 363 cases in respect of scarlet fever and 371 cases in respect of mumps. During the year, 1,800 cases of diphtheria were reported as against 1,808 for the year 1937.

No school or department was closed during the year on account of infectious disease.

The arrangements introduced in 1932 for the inoculation of children attending the infants' departments of public elementary schools against diphtheria were continued. Visits for this purpose were paid to 90 schools.

The response varied considerably in the different schools, but taking the schools as a whole, approximately 29 per cent. of the infants attending were inoculated.

The following schools were visited and inoculation carried out:—

All Saints' R.C.
All Souls' R.C.
Anfield Road Council.
Arnot Street Council.
Banks Road Council.
Barlows Lane Council.
Birchfield Road Council.
Bishop Goss R.C.
Blackmoor Park Council.
Broadgreen Road Council.
Broad Square Council.
Butler Street Council.
Christ Church, Everton.
Corinthian Avenue Council.
Dovedale Road Council.
Everton Road Nursery.
Florence Melly Council.
Formosa Drive Council.
Friary R.C.
Garston C.E.
Garston R.C.
Gilmour, Danefield Road.
Gilmour, South Bank Road.
Holy Cross.
Holy Name, R.C.
Holy Trinity R.C., Garston.
Knotty Ash C.E.
Knowsley, Colwell Road.
Lawrence Road Council.
Leamington Road Council.
Lister Drive Council.
Maidford Road Council.
Matthew Arnold Council.
Monksdown Road Council.
Mosspits Lane Council.
Much Woolton C.E.
Newsham, Boaler Street.
Northway Council.
Our Lady of Mount Carmel.
Parkhill Council.
Ranworth Square Council.
Roscoe Council, Ballantyne Road.
Rudston Road Council.
Sefton Park Council.
South C.E., Cornwallis Street.
St. Alban's R.C.
St. Alphonsus' R.C.
St. Anne's R.C.
St. Anne's C.E.
St. Anthony's R.C.
St. Athanasius' C.E.
St. Augustine R.C.
St. Bernard's R.C.
St. Bridget's C.E.
St. Bridget's R.C.
St. Catherine's C.E.
St. Cecilia's R.C.
St. Cleopas' C.E.
St. Francis de Sales.
St. Gerard's R.C.
St. Hugh's R.C.
St. John's C.E., Tue Brook.
St. John's R.C.
St. Jude's C.E.
St. Lawrence C.E.
St. Malachy's R.C.
St. Margaret's C.E., Anfield.
St. Margaret Mary R.C.
St. Mary's C.E., Kirkdale.
St. Mary's C.E., Edgehill.
St. Mary's C.E., Wavertree.
St. Matthew's R.C.
St. Michael's Council.
St. Michael's R.C.
St. Oswald's R.C.
St. Paul's C.E., Kirkdale.
St. Paul's C.E., Toxteth.
St. Peter's R.C.
St. Saviour's C.E., Canning Street.
St. Saviour's C.E., Everton.
St. Sebastian's R.C.
St. Silas' C.E.
St. Vincent's R.C.
Upper Park Street Council.
Vine Street Methodist.
Walton C.E.
Warbreck Council, Rice Lane.
Warbreck Council, Longmoor Lane.
Wellesbourne Road Council.
West Derby C.E.

The total number of school children inoculated at the schools was 6,356. In addition, a considerable number of children of school age were inoculated at the two inoculation clinics held at the Carnegie Welfare Centre and the Norris Green Clinic.

The following tables show the number of cases of the common infectious diseases, with the ages of the children affected and the monthly distribution of the cases.

TABLE XXXV.

SCHOOL CASES OF INFECTIOUS DISEASE OCCURRING DURING 1938.

AGE DISTRIBUTION.

Disease.	Under 5 years.	5 +	6 +	Total under 7 years.	7 +	8 +	9 +	10 +	11 +	12 +	13+	14 +	Total above 7 years.	Grand Total.
Diphtheria	79	290	283	652	231	195	189	162	121	130	90	30	1,148	1,800
Scarlet Fever ...	52	217	245	514	222	202	158	151	85	115	92	48	1,073	1,587
Measles	100	647	496	1,243	170	34	19	11	4	7	2	3	250	1,493
Whooping Cough ...	37	231	121	389	44	17	7	7	5	2	2	—	84	473
Chickenpox ...	35	174	176	385	124	85	32	23	15	12	9	2	302	687
Mumps	10	61	53	124	32	18	5	2	4	2	5	—	68	192
Totals ...	313	1,620	1,374	3,307	823	551	410	356	234	268	200	83	2,925	6,232

TABLE XXXVI.

SCHOOL CASES OF INFECTIOUS DISEASE DURING 1938.

MONTHLY DISTRIBUTION.

Disease.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Diphtheria ...	191	201	200	141	128	111	92	101	174	145	162	154	1,800
Scarlet Fever ...	176	191	175	117	133	117	69	74	105	106	163	161	1,587
Measles	736	506	161	39	15	24	2	1	1	1	4	3	1,493
Whooping Cough	62	70	89	24	93	34	2	43	10	4	18	24	473
Chickenpox ...	52	73	89	38	95	133	6	19	28	26	67	61	687
Mumps	10	22	20	16	36	19	3	4	8	8	22	26	192
Totals ...	1,227	1,063	734	375	500	438	174	242	290	290	436	429	6,232

Co-operation between the Health and Education Departments.

Information is sent both to the Director of Education and also to the head teachers of the schools concerned when it is found that children from infected houses are attending school. During 1938 12,306 children who had been exposed to infection were reported in this way.

During the year, 4,575 visits to schools were paid by sanitary inspectors and 97 defects were found and subsequently remedied.

References from the Education Department to the Health Department concerning the occurrence of infectious or suspected infectious illness totalled 3,582 during the year.

MATERNITY AND CHILD WELFARE.

MATERNITY and CHILD WELFARE.

Summary of Vital Statistics for 1938:—

Live births	...	16,175	**Live birth rate**	...	18·7
Still-births	...	639	**Still-birth rate**	...	0·7

Total births ... 16,814

Infant Mortality rate	73
Neo-natal Mortality rate	29
Maternal Mortality rate	1·96

The maternity and child welfare work in this city is very comprehensive. The whole scheme is designed to reduce maternal and infantile mortality and morbidity, and entails not only the harmonious and co-ordinated action of all officially engaged in it, but also active co-operation with all voluntary agencies, medical and social, whose efforts are directed towards the improvement and maintenance of public health.

The maternity and child welfare scheme operative in this city is given in outline in the following pages.

THE MIDWIFERY DEPARTMENT.

In this are included:

i. The quarterly routine visiting of midwives in their own homes for inspection of registers, records and equipment, under the Central Midwives Board Rules.

ii. The investigation of all cases of:—

(*a*) Medical assistance sought by midwives (Central Midwives' Board Rules).

(*b*) Puerperal Pyrexia and Puerperal Fever, under the Public Health (Notification of Puerperal Fever and Puerperal Pyrexia) Regulations, 1926 and 1928.

(*c*) Claims for fees in indigent cases, under Maternity and Child Welfare Act, 1918, and the Public Health Act, 1936.

(*d*) Claims from midwives suspended so as to prevent the spread of infection (Midwives and Maternity Homes Act, 1926).

(*e*) Maternal deaths for the special report to the Ministry of Health.

(*f*) Ophthalmia Neonatorum, and the giving of treatment where required under Ophthalmia Neonatorum Regulations, 1926.

(*g*) Pemphigus.

iii. The visiting of Lying-in Homes registered under the Liverpool Corporation Act, 1921, and Midwives and Maternity Homes Act, 1926, also visiting of Nursing Homes under Nursing Homes Registration Act, 1927, and the Public Health Act, 1936.

iv. Any other enquiries, investigations or advice relating to the practice of midwives in the city.

During the year, 257 midwives gave the required notice under section 10 of the Midwives Act, 1902, of their intention to practise midwifery in this city.

The Midwives Act, 1936.

The Midwives Act, 1936, was passed for the purpose of securing, that the number of certified midwives available in the area for attendance on women in their own homes as midwives, or as maternity nurses, during childbirth and the lying-in period, shall be adequate for the needs of the area, either by making arrangements with voluntary organisations or by the local authority itself employing certified midwives, or partly in one way and partly in the other.

Within six months of the passing of the Act, i.e., by the end of January, 1937, it was the duty of the authority to submit proposals to the Minister of Health for carrying out its duties under Section I of the Act after consultation—

(1) With all voluntary organisations which employed or were willing to employ domiciliary midwives in the area of the authority; and

(2) With any local organisation of medical practitioners which effectively represented the opinion of such practitioners on questions to be considered in formulating such proposals; and

(3) With such local organisation of midwives as appeared effectively to represent the opinions of midwives practising in the area on such questions.

The Medical Officer of Health prepared a report on the Act, setting out a scheme for the provision of salaried midwives in Liverpool which was approved by the City Council on the 6th January, 1937, by the Co-ordination (Special) Committee on the 25th January, 1937, and subsequently by the Ministry of Health.

In his report, the Medical Officer based the number of full-time midwives required in the City on the 10,388 births which, in 1935, had taken place at home. The Act suggested that the number of cases attended by each midwife should be 100, but allowances had to be made for sick leave and vacations and the possible suspension of a midwife from duty in order to prevent the spread of infection. It was, therefore, likely that the actual number allocated by the Medical Officer to each midwife annually would be about 90. The City Council agreed to the appointment of 80 midwives, but in consideration of the decline of the birth rate and other factors, this figure was understood to be provisional and has been, in fact, amended.

In accordance with the terms of the Act, it was the duty of the authority to consult with all voluntary organisations employing, or willing to employ domiciliary midwives, and, after due consideration, agreements were drawn up and approved by the Ministry of Health between the Corporation and the Board of the Liverpool Maternity Hospital and between the Corporation and the Woolton and District Nursing Society. In the former case, it was agreed that twelve midwives

should be employed by the Board; in the latter case, it was agreed to employ one midwife and that the Corporation should pay an annual specified sum towards the provision of their salaries in each case.

The Act provides for the retirement of midwives till 30th July, 1939, either voluntarily or compulsorily on the grounds of unfitness. Retirement on compensation may take place during a period of three years from the passing of the Act and is a somewhat uncertain factor. It was, therefore, decided by the City Council to appoint in the first place only fifty midwives to the municipal service and to add to this number as and when additional midwives were required. Of the 257 midwives who gave the required notice, under Section 10 of the Midwives Act, 1902, of their intention to practise, during 1938, the following retirements on compensation took place:—

i. Owing to ill-health	3
ii. Voluntary retirement	10

The appointments and retirements of municipal midwives up to the end of 1938 were as follows:—

Appointments.		Retirements.	
1937—July	50	1937—Nil.	
December ...	2		
1938—January ...	2	1938—May ...	1
April	1	August ...	1
May	2		
July	1		

The number of municipal midwives at the end of 1938 was 56.

During the year 1938 the municipal midwives attended:—

Midwifery cases	4,177
Maternity cases	307

Notification of Live and Still-Births.

A total of 7,942 births (7,745 live births and 197 still-births) were attended by midwives during the year, which represented 43·7 per cent. of the total (live and still) births notified in the City. The total number of births which took place in institutions during the year was 8,979 (8,517 live births, 462 still-births).

Statement of Notifications of Live and Still Births received during the Years 1937 and 1938.

Notifications Received from	1937.				1938.			
	Live Births.	Still Births.	Total.	Percentage of births notified.	Live Births.	Still Births.	Total.	Percentage of births notified.
Certified Midwives	6,643	154	6,797	36·5	6,429	172	6,601	36·3
Medical Attendants	1,204	44	1,248	6.7	1,176	66	1,242	6·8
Transferred Institutions	6,034	305	6,339	34·0	6,033	307	6,340	34·9
Liverpool Maternity Hospital	1,736	134	1,870	10·0	1,679	119	1,798	9·9
"Rest Home," Chatham Street	284	3	287	1·1	279	9	288	1·6
District Homes	1,428	42	1,470	7·9	1,316	25	1,341	7·4
Royal Infirmary	584	26	610	3·3	514	26	540	3 0
Other Institutions	24	3	27	0·2	12	1	13	0·1
Parents	—	—	—	—	—	—	—	—
	17,937	711	18,648	100·0	17,438	725	18,163	100.0

The number of still-births notified during the year was 725*, of which number 197 were notified by midwives, being at the rate of 2·5 per cent. of the total births attended by them. Enquiries were made into the circumstances of all still-births, and the number of visits paid was 658.

Routine Visits to Midwives.

Rule 25 laid down by the Central Midwives Board states :—

> "The Local Supervising Authority shall make arrangements to "secure a proper inspection of the register of cases, bag of "appliances, etc., of every midwife practising in the district of "such authority, and when thought necessary, an inspection of "her place of residence, and an investigation of her mode of "practice."

During the year, 1,940 visits were paid to the homes of practising midwives for the purpose of inspection, and for special enquiries relating to their work.

Medical Assistance.

Under the rules issued by the Central Midwives Board, a midwife must advise that medical assistance shall be called in where there is any abnormal circumstance connected with the confinement.

The following table gives the details of the complications for which medical aid was advised by midwives, the total number of medical records being 3,070.

Mother—

Obstructed labour, uterine inertia or requiring instrumental assistance	525
Ruptured perinæum	568
Ante-partum hæmorrhage...	217
Pyrexia	107
Carried forward ...	1,417

* The total number of registered still-births during the year 1938 was 639 (see page 5).

Brought forward ...	1,417
Ante-natal treatment	174
Abortion or miscarriage	101
Post-partum hæmorrhage	128
Retained placenta or membranes	40
Varicose veins—inflamed legs, etc. (not A.N.)	17
Premature birth	7
Multiple births	15
Eclampsia	7
Deformed pelvis	4
Influenza	5
Abnormal presentation:	
Breech presentation	40
Occipito-posterior position	29
Cord presentation	6
Foot presentation	7
Brow or face presentation	26
Transverse presentation	9
Placenta prævia	10
Various	261
	2,303
Child—	
Feebleness and prematurity	140
Ophthalmia	308
Skin eruption	101
Malformations	31
Convulsions	16
Injury at birth	10
Other conditions in child	161
	767
Total	3,070

Claims for Fees in Emergency Cases.

Payment may be made by Local Supervising Authorities to medical practitioners called in by midwives under section 14 of the Midwives Act, 1918. During the year, 3,748 visits and re-visits were paid in regard to these accounts. Applicants are assessed on a scale of income, due consideration being given to cases where any special expenditure has been incurred in the interests of the mother or child. The whole or part of the doctor's fee is paid in almost all cases by the Maternity and Child Welfare Sub-Committee.

During the year the total number of occasions on which the services of a consultant obstetrician in connection with cases of puerperal fever, puerperal pyrexia or complications during pregnancy were requisitioned was 23. The ability of the patient to pay was investigated, and in 21 of these cases, the whole fee was defrayed by the Maternity and Child Welfare Sub-Committee.

During the year, 280 claims from midwives for necessitous midwifery were investigated, 275 of which were paid. Claims for necessitous midwifery were discontinued after July 10th because provision was made in the established service for all cases of hardship.

Claims from Midwives who were suspended from Practice.

Section 2 (1) Midwives and Maternity Homes Act, 1926, gives a midwife who is suspended from practice (not herself being in default) in order to prevent the spread of infection, the right to recover reasonable compensation from the Local Authority. Seven midwives were suspended under this section during 1938, of these five were municipal midwives. Although the remaining two midwives were in independent practice only one midwife made a claim.

The reasons for suspension were as follows:—

In contact with scarlet fever	1
Stye on midwife's eye	2
Septic fingers	3
Boil in nose	1

Public Health (Notification of Puerperal Fever and Puerperal Pyrexia) Regulations, 1926 and 1928.

These regulations require the notification to the Medical Officer of Health of any febrile condition occurring in a woman within 21 days of childbirth or miscarriage in which a temperature of 100·4° Fahrenheit or more has been sustained during a period of 24 hours or has recurred during that period. Puerperal fever was formerly notifiable under the *Infectious Disease (Notification) Act, 1889, to which the above regulations are supplementary.

With the object of securing adequate treatment in the early stages of this somewhat ill-defined condition, the prescribed notification form provides that the medical attendant can ask for (1) a second opinion on the case, (2) certain bacteriological examinations, (3) admission of the patient to hospital or (4) the provision of trained nurses; or, alternatively, state that facilities for all necessary treatment exist.

The services of consultant obstetricians have been provided by the Maternity and Child Welfare Sub-Committee, under the Public Health (Notification of Puerperal Fever and Puerperal Pyrexia) Regulations,

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* The Infectious Disease (Notification) Act, 1889 was repealed by the Public Health Act, 1936 which came into operation on 1st October, 1937, since when the obligation to notify Puerperal Fever has been included in the obligation to notify Puerperal Pyrexia under the Public Health (Notification of Puerperal Fever and Puerperal Pyrexia) Regulations 1926 and 1928

1926 and 1928, and Memo. 156/M.C.W. Hospital accommodation has for some years been provided, in Walton and Smithdown Road Hospitals, and Mill Road Infirmary. Arrangements have also been made by which the services of the nurses of the Queen Victoria District Nursing Association are available.

Puerperal Pyrexia.

The number of cases of puerperal pyrexia notified during the year was 353. Of these 2 were found to be puerperal septicæmia, and therefore, fall within the definition of puerperal fever. The remaining 351 were cases of pyrexia of puerperal origin of a lesser degree than is legally termed puerperal fever. Of these cases 316 were admitted to or occurred in hospitals, and 41 occurred in the practice of midwives, and in 15 cases nurses were provided.

Puerperal Fever.

The number of cases of puerperal fever notified to the medical officer of health during the year was 26 of which 11 proved fatal. This gives a puerperal fever death rate of 0·65 per 1,000 total (live and still) births registered in the city.

Twenty-two cases of puerperal fever were admitted to or occurred in hospital, viz. :—2 in Mill Road Infirmary, 14 in Walton Hospital (the hospital which normally receives cases of puerperal fever from the city), 4 in Smithdown Road Hospital, 1 in the Liverpool Maternity Hospital, and 1 in the Royal Infirmary. After the usual enquiries were made, 11 cases (of which 3 died) were found to have occurred in the practice of midwives.

Maternal Mortality.

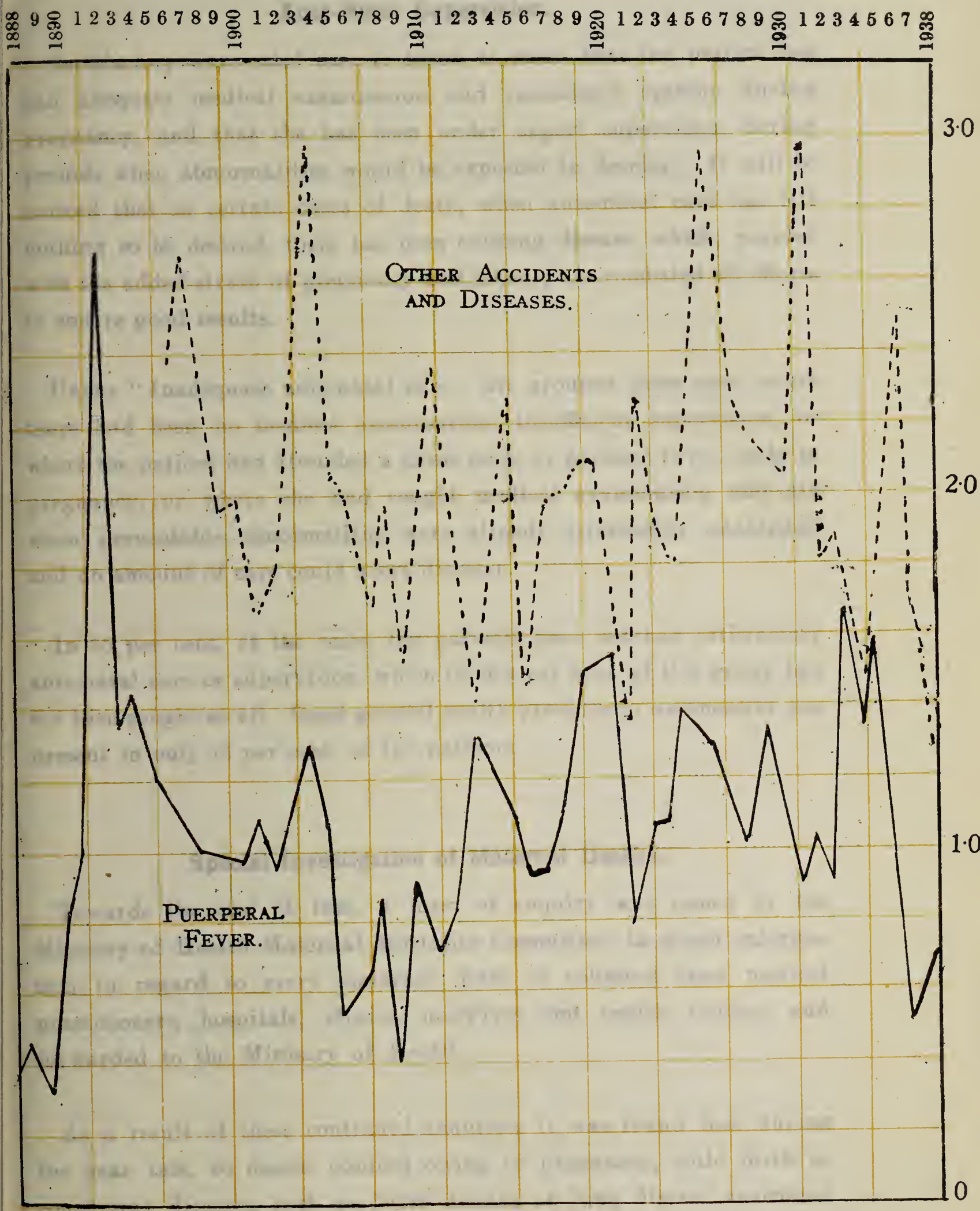
Table showing the number of Live and Still Births registered in the City, together with Maternal Deaths and Maternal Death Rates, for the years 1921 to 1937.

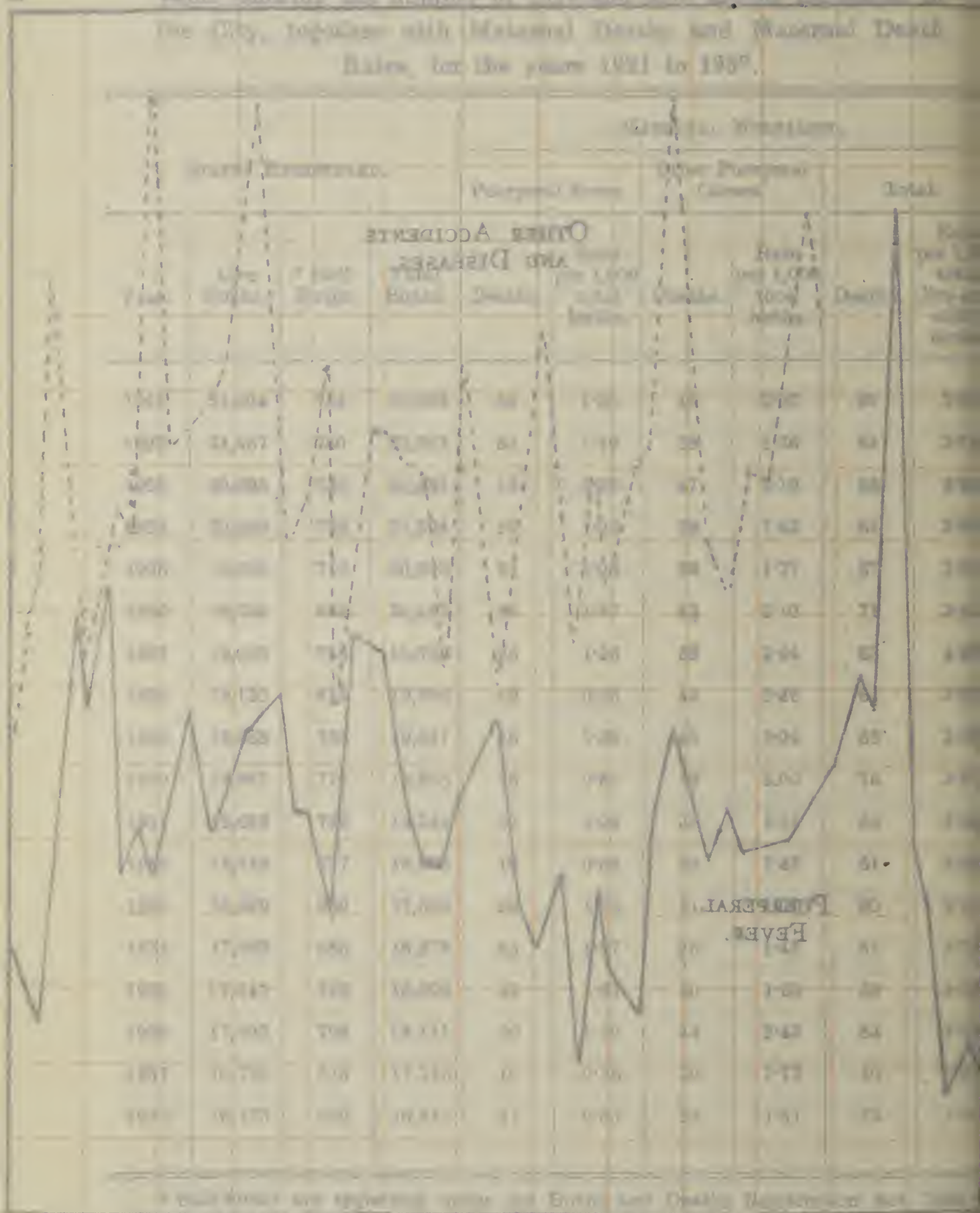
Births Registered.				Maternal Mortality.					
				Puerperal Fever.		Other Puerperal Causes.		Total.	
Year.	Live Births.	* Still Births.	Total Births.	Deaths.	Rate per 1,000 total births.	Deaths.	Rate per 1,000 total births.	Deaths.	Rate per 1,000 total (live and still) births.
1921	21,904	764	22,668	34	1·50	46	2·03	80	3·53
1922	21,467	740	22,207	33	1·49	28	1·26	61	2·75
1923	20,695	736	21,431	16	0·75	47	2·19	63	2·94
1924	20,559	735	21,294	22	1·03	39	1·83	61	2·86
1925	19,592	716	20,308	21	1·03	36	1·77	57	2·80
1926	19,792	665	20,457	28	1·37	43	2·10	71	3·47
1927	19,020	735	19,755	25	1·26	58	2·94	83	4·20
1928	19,120	816	19,936	19	0·95	45	2·26	64	3·21
1929	18,888	753	19,641	26	1·32	40	2·04	66	3·36
1930	18,881	774	19,655	16	0·81	59	3.00	75	3·81
1931	18,626	722	19,348	20	1·03	35	1·81	55	2·84
1932	18,149	827	18,976	16	0·84	35	1·85	51	2·69
1933	16,929	680	17,609	29	1·65	31	1·76	60	3·41
1934	17,593	685	18,278	25	1·37	26	1·42	51	2·79
1935	17,347	749	18,096	29	1·60	30	1·66	59	3·26
1936	17,403	708	18,111	20	1·10	44	2·43	64	3·53
1937	16,728	618	17,346	10	0·58	30	1·73	40	2·31
1938	16,175	639	16,814	11	0·65	22	1·31	33	1·96

* Still-births are registered under the Births and Deaths Registration Act, 1926 which came into operation in July, 1927, the figures given prior to 1928 are those of notified still-births.

CITY OF LIVERPOOL.

MORTALITY PER 1000 BIRTHS FROM PUERPERAL FEVER AND OTHER ACCIDENTS AND DISEASES OF PREGNANCY, 1888-1938.




Other Accidents and Diseases
Puerperal Fever

Ante-Natal Supervision.

Satisfactory ante-natal care is taken to mean that the patient has had adequate medical examination and specialist's opinion during pregnancy, and that she has been under expert supervision during periods when abnormalities would be expected to develop. It will be noticed that in certain cases of death, when ante-natal care has left nothing to be desired, there has been existing disease, which, coupled with the added strain of pregnancy and labour, has combated all efforts to ensure good results.

Under "Inadequate ante-natal care" are grouped those cases where there had been no medical examination, insufficient supervision, or where the patient had attended a clinic once, or perhaps twice, early in pregnancy, or where she had sought medical examination and aid when preventable abnormalities were already irrevocably established and no amount of care could avert disaster.

In 55 per cent. of the cases, the patients have not had satisfactory ante-natal care or supervision, which in 36·4 per cent. of this group had not been sought at all. Good general health previous to confinement was present in only 15 per cent. of the patients.

Special Investigation of Maternal Deaths.

Towards the end of 1928, a form of enquiry was issued by the Ministry of Health Maternal Mortality Committee, in which information in regard to every maternal death is collected from medical practitioners, hospitals, clinics, midwives and health visitors, and forwarded to the Ministry of Health.

As a result of these continued inquiries it was found that during the year 1938, 60 deaths occured owing to pregnancy, child birth or concurrent diseases, such as heart disease or lung disease associated with pregnancy.

CLASS I:—DEATHS DIRECTLY DUE TO CHILDBEARING.

1.	Puerperal Sepsis.		
	Sepsis following normal labour	1	13
	Sepsis following forceps delivery	1	
	Sepsis following other abnormalities of labour	4	
	Sepsis following abortion	7	
2.	Toxaemia (not eclampsia)		9
3.	Eclampsia		2
4.	Haemorrhage		7
5.	Shock		2
6.	Embolism		1
7.	Ectopic gestation		1
8.	Dystocia		2
			37

CLASS II:—DEATHS NOT PRIMARILY DUE TO PREGNANCY.

1.	Pneumonia	7
2.	Cardiac disease	7
3.	Chronic renal disease	—
4.	Pulmonary Tuberculosis	2
5.	Unclassified	7
		23

Of the 60 mothers who died, 54 were treated or delivered in hospital, of whom 43 were admitted to hospital as emergency cases. Ante-natal care and supervision was satisfactory in only 27 cases, i.e., in 45 per cent. of the total number; it was inadequate in 21 cases and entirely absent in 12 cases, almost entirely because of lack of intelligent co-operation of the patients.

Puerperal Sepsis

Sepsis following Normal Labour.

Reg. No.	Age.		Number of Pregnancy.	Circum-stances.	General Health.	Ante-natal Care.	Booked or Emergency for Hospital.	Remarks.
5	29	Legitimate	2nd	Fairly Comfortable	Good	Satisfactory	—	Anaemia of long standing.

Sepsis following Abnormal Labour.

1	40	Legitimate	6th	Poor	Poor	Satisfactory	Emergency	Infection of left antrum, bronchitis, streptococcal infection, Caesarean section.
17	32	Legitimate	4th	Poor	Poor	Inadequate	Emergency	Left basal pleurisy, adherent placenta.
37	33	Legitimate	9th	Poor	Fairly Good	Satisfactory	Emergency	Malpresentation, decapitation.

Sepsis following Forceps Delivery.

33	22	Legitimate	3rd	Poor	Fairly Good	Inadequate	Emergency	Failed forceps, obstructed labour, ruptured uterus.

Sepsis following Abortion.

Reg. No.	Age.		Number of Pregnancy.	Circum-stances.	General Health.	Ante-natal Care.	Booked or Emergency for Hospital.	Remarks.
3	42	Legitimate	16th	Poor	Poor	Nil	Emergency	Pyaemia, hysterectomy.
4	33	Illegitimate	6th	Poor	Poor	Nil	Emergency	Patient malnourished. 22 weeks gestation.
8	17	Illegitimate	1st	Poor	Fairly Good	Inadequate	Emergency	General peritonitis due to gas gangrene. 20 weeks gestation.
10	24	Legitimate	3rd	Fairly Comfortable	Poor	Nil	Emergency	Broncho-pneumonia, streptococcal meningitis. 10 weeks gestation.
12	28	Legitimate	4th	Poor	Poor	Satisfactory	Emergency	Pre-existing heart disease, haemolytic streptococcal infection. 6 weeks gestation.
14	26	Legitimate	4th	Poor	Fairly Good	Nil	Emergency	Haemolytic streptococcal infection, pre-existing heart disease. 12 weeks gestation.
28	26	Illegitimate	1st	Fairly Comfortable	Good	Nil	Emergency	*B. Welchii* septicaemia. 12 weeks gestation.
44	30	Legitimate	3rd	Poor	Fairly Good	Nil	Emergency	General peritonitis. 12 weeks gestation.

Toxæmia (not Eclampsia).

Reg. No.	Age.		Number of Pregnancy.	Circum-stances.	General Health.	Ante-natal Care.	Booked or Emergency for Hospital.	Remarks.
13	23	Legitimate	2nd	Poor	Poor	Satisfactory	Emergency	Acute yellow atrophy of the liver.
20	29	Legitimate	4th	Poor	Poor	Nil	Booked	Patient ailing throughout pregnancy. Broncho-pneumonia developed.
22	29	Legitimate	5th	Poor	Poor	Satisfactory	Booked	Severe anaemia, uraemia.
27	30	Legitimate	6th	Poor	Fairly Good	Satisfactory	Emergency	Uraemia, nephritis, ante-partum haemorrhage.
34	41	Legitimate	7th	Poor	Poor	Inadequate	Emergency	Anaemia, phlebitis, pyaemia, post-partum jaundice.
42	27	Legitimate	1st	Fairly Comfortable	Poor	Inadequate	Emergency	Phthisis, therapeutic abortion.
45	29	Illegitimate	1st	Poor	Poor	Satisfactory	Emergency	Hyperemesis gravidarum, hypostatic pneumonia.
57	31	Legitimate	2nd	Poor	Poor	Satisfactory	Booked	Acute bronchitis, myocarditis, nephritis.
60	43	Legitimate	8th	Poor	Poor	Inadequate	Emergency	Concealed accidental haemorrhage, pneumonia.

Eclampsia.

26	28	Legitimate	3rd	Poor	Poor	Inadequate	Emergency	Intra partum fits, twins.
29	32	Legitimate	2nd	Comfortable	Good	Inadequate	Emergency	Cerebral haemorrhage.

Hæmorrhage.

7	22	Legitimate	1st	Fairly Comfortable	Good	Satisfactory	—	Adherent placenta, post-partum haemorrhage.
18	27	Legitimate	2nd	Poor	Poor	Satisfactory	Emergency	Ante-partum haemorrhage. Patient died undelivered.
30	42	Legitimate	3rd	Comfortable	Good	Satisfactory	—	Ante-partum haemorrhage, cardiac failure.
36	35	Legitimate	1st	Poor	Poor	Satisfactory	Booked	Accidental ante-partum haemorrhage, cardiac failure.
40	24	Legitimate	1st	Poor	Fair	Nil	Emergency	Toxaemia.
41	25	Legitimate	2nd	Poor	Poor	Inadequate	Emergency	Ante-partum haemorrhage, placenta praevia. Patient died undelivered.
53	19	Legitimate	1st	Poor	Poor	Inadequate	Emergency	Post-partum haemorrhage, atony of uterus, toxaemia.

Pneumonia.

2	32	Legitimate	2nd	Fairly Comfortable	Good	Nil	Emergency	Premature birth. Infant stillborn.
9	33	Legitimate	2nd	Fairly Comfortable	Fairly Good	Satisfactory	Emergency	Right lobar pneumonia, premature birth.
16	35	Legitimate	5th	Poor	Poor	Inadequate	Booked	Anaemia, bronchitis, acute lobar pneumonia supervened.
19	30	Legitimate	7th	Poor	Poor	Nil	Emergency	Lobar pneumonia, premature birth.
24	34	Legitimate	5th	Poor	Poor	Inadequate	—	Acute lobar pneumonia, premature birth.
47	34	Legitimate	9th	Poor	Fairly Good	Inadequate	Emergency	Influenzal pneumonia, premature birth.
49	23	Legitimate	1st	Poor	Poor	Satisfactory	Emergency	Broncho-pneumonia, premature birth.

Pulmonary Tuberculosis.

Reg. No.	Age.		Number of Pregnancy.	Circum-stances.	General Health.	Ante-natal Care.	Booked or Emergency for Hospital.	Remarks.
25	21	Legitimate	2nd	Poor	Poor	Inadequate	Emergency	Extensive bilateral pulmonary tuberculosis.
43	31	Legitimate	9th	Poor	Poor	Inadequate	Emergency	Bilateral pulmonary tuberculosis, pyaemia.

Shock.

35	43	Legitimate	9th	Poor	Poor	Inadequate	Emergency	Difficult labour, rupture of uterus, hysterectomy.
48	30	Legitimate	5th	Poor	Poor	Satisfactory	Booked	Retained placenta, twins.

Embolism.

38	41	Legitimate	10th	Poor	Fairly Good	Satisfactory	Emergency	Normal delivery. Patient died 19 days after confinement.

Ectopic Gestation.

6	28	Legitimate	6th	Poor	Poor	Satisfactory	Emergency	General peritonitis, severe anaemia.

Dystocia.

51	38	Legitimate	9th	Poor	Poor	Satisfactory	Emergency	Obstructed labour, ruptured vagina, bronchitis.
52	27	Legitimate	3rd	Poor	Good	Satisfactory	—	Prolonged and difficult labour haemorrhage, exhaustion, failed forceps.

Cardiac Disease.

11	36	Legitimate	4th	Fairly Comfortable	Good	Satisfactory	Emergency	Pericarditis, empyema, lobar pneumonia.
15	33	Legitimate	3rd	Poor	Poor	Inadequate	—	Long standing myocarditis. Patient died undelivered.
21	28	Legitimate	3rd	Poor	Poor	Satisfactory	Emergency	Mitral stenosis, secondary anaemia.
39	26	Legitimate	2nd	Poor	Poor	Satisfactory	Emergency	Heart disease with failure of compensation, therapeutic termination of pregnancy.
54	40	Legitimate	6th	Poor	Poor	Inadequate	Emergency	Long standing mitral stenosis, pulmonary oedema.
56	25	Legitimate	2nd	Poor	Poor	Satisfactory	Booked	Pleural effusion, mitral stenosis. Patient died undelivered.
58	35	Legitimate	8th	Poor	Fairly Good	Inadequate	Booked	Paroxysmal tachycardia.

Unclassified.

Reg. No.	Age.		Number of Pregnancy.	Circum-stances.	General Health.	Ante-natal Care.	Booked or Emergency for Hospital.	Remarks.
23	33	Legitimate	4th	Poor	Poor	Inadequate	Emergency	Pyelitis. Died undelivered.
31	32	Legitimate	4th	Comfortable	Fairly Good	Satisfactory	Booked	Placenta praevia, Caesarean section.
32	19	Illegitimate	1st	Poor	Good	Inadequate	Emergency	Pyonephrosis, renal calculus.
46	28	Legitimate	3rd	Poor	Fairly Good	Satisfactory	Booked	Acute renal failure.
50	34	Legitimate	4th	Poor	Poor	Nil	Emergency	Post encephalitis, cerebral thrombosis, abortion. 12 weeks' gestation.
55	35	Legitimate	2nd	Fairly Comfortable	Poor	Satisfactory	Booked	Uraemia, pyelo-nephritis, pyelitis of pregnancy, Caesarean section.
59	30	Legitimate	2nd	Poor	Poor	Nil	Emergency	Cerebral tumour. Patient died undelivered.

Ophthalmia Neonatorum.

Inflammation in the eyes of the newly-born.—The definition adopted for the purpose of dealing with this disease is that used in the rules issued by the Central Midwives Board, governing the practice of midwives, namely, in the section relating to the child, "Inflammation of, or discharge from, the eyes, however slight." It is considered advisable, therefore, to include inflammation of all degrees of severity in the term "Ophthalmia Neonatorum." The following figures give some details as to the source of information and character of the cases dealt with during the year :—

The number of cases brought to the notice of the department during the year was 768, which consisted of :—

Mild cases	674
Severe cases	94
Total	768

These cases were dealt with as follows :—

Number treated in the homes by special nurse ...	356
,, attended at hospital as out-patients and treated by special nurse	63
,, admitted to hospital	18
,, treated by medical attendants and special nurse	109
,, treated by medical attendants alone	187
,, treated and cured in hospital	29
,, removed from district	6
	768
,, of cases brought forward from previous year..	24
Total ...	792

Number of cases cured	745
,, died under treatment	5
,, under treatment at 31/12/38	35
,, removed from district	6
,, sight lost	1
	792

In addition to the above, 38 cases notified were not cases of ophthalmia neonatorum.

Arrangements have been made with the City Bacteriologist to examine the discharge in every notified case of inflamed eyes in the newly-born. This enables a prompt verification of the disease to be determined.

No. of notifications.	Cases from which specimens were examined by the City Bacteriologist and at St. Paul's Hospital.	No. of cases of positive Gonorrhoea.	Percentage to total cases examined.	Percentage to total notifications.
768	70	15	21·4	1·9

The total number of visits and re-visits paid in respect of the above cases was 5,320.

A very important part of the scheme for dealing with this disease is the provision at St. Paul's Eye Hospital of five beds and cots for the reception of infants with their mothers, where the former can be under the immediate care of ophthalmic surgeons and nurses during the acute stage of the disease. During the year 15 babies were admitted with their mothers.

Nursing Homes.

Liverpool Corporation Act, 1921, *Midwives and Maternity Homes Act*, 1926, *Nursing Homes Registration Act*, 1927, *and the Public Health Act*, 1936.—During the year four applications for registration were received by the Town Clerk. After careful investigation of the premises and practice of the applicants, these were approved by the Maternity and

Child Welfare Sub-Committee and registered. Eleven registrations were cancelled, four of them were re-registered, one was cancelled because the keeper retired on compensation under the Midwives Act, 1936, three did not wish to continue, two removed, and one was cancelled owing to the death of the keeper. No further exemptions other than those already granted were applied for.

The Nursing Homes on the register at the end of the year numbered 35, the approximate number of beds being 252.

Babies born in Nursing Homes during the year numbered 683, including 4 twin births.

Visits of the Staff of the Midwifery Department to Special Cases.

These cases are not classifiable in any of the sections so far considered and include visits to women suffering from venereal disease, visits paid to cases of puerperal pyrexia and puerperal sepsis, cases of weaning, maternal mortality, etc. Such visits during 1938 numbered 698.

THE HEALTH VISITORS' DEPARTMENT.

This work is carried out by a staff of trained health visitors.

The work of the health visitors comprises the following:—

(1) Ante-natal or pre-maternity clinics for expectant mothers.

(2) Clinics for children up to five years of age.

(3) Instruction classes at the above clinics in cutting out, sewing, knitting, etc.

(4) Visiting in the homes under the Notification of Births Act. 1915, and the Public Health Act, 1936.

(5) Home-visiting in connection with the ante-natal and post-natal clinics.

(6) Home-visiting of children up to five years of age to advise generally on their care and feeding.

(7) Home-visiting of pre-school children in relation to defects, e.g., to arrange, in conjunction with the School Medical

Department, for treatment of squint, otorrhœa, orthopædic defects, etc.

(8) Child life protection. Visiting under the Children and Young Persons Act, 1932, and since October, 1937, under the Public Health Act, 1936, Section 206-220.

(9) Special visits:—

(*a*) Measles, whooping cough and pneumonia.

(*b*) Infantile diarrhœa.

(*c*) "House to house" inspection.

(10) Other special visits in connection with:—

(*a*) Aged and infirm people.

(*b*) Prevention of cruelty to children.

(*c*) Provision of fireguards.

(*d*) Relieving officers.

(*e*) Admission to day nurseries.

(*f*) Certain areas in which infantile diarrhœa is likely to occur.

(*g*) After care of children under 1 year of age discharged from Alder Hey Hospital and Olive Mount Hospital.

(*h*) Supply of milk to expectant and nursing mothers and children.

(*i*) Voluntary agencies.

(*j*) Other special enquiries.

Ante-Natal Clinics.

Experience has shown that conditions productive of a high rate of mortality among mothers point also to a high rate of morbidity, which is, unfortunately, not calculable by available statistics. Among the arrangements for the care and supervision of expectant motherhood ante-natal clinics have a large place.

In Liverpool there are 25 centres at which 61 ante-natal clinics are held weekly. Of these clinics, 15 are under the auspices of the Liverpool Maternity Hospital, four are held at the Royal Infirmary, four at Walton Hospital, five at Mill Road Infirmary, three at Smithdown Road Hospital, three are administered by the Child

Welfare Association, and the remaining 27 by the Maternity and Child Welfare Sub-Committee. At the ante-natal clinics, specialised examination is provided, for the most part, by consultant obstetricians.

Classes for mothers are held at the ante-natal clinics in rotation. At these classes the mothers are advised on the preparation for their confinements, hygienic maternity clothes for themselves, and suitable cot, bedding and clothing for the coming infant.

Treatment, except of a minor or preventive character, is not given. Patients in need of treatment are referred to private medical practitioners or, if necessary, to a suitable hospital. Milk is provided for expectant mothers on a doctor's order.

Expectant mothers come to the clinics from many sources, as will be seen by the following table which refers to the Municipal Clinics, Liverpool Transferred Hospital Clinics, Royal Infirmary Clinic, the Liverpool Maternity Hospital Clinics, Child Welfare Association and the Royal Liverpool Babies' Hospital, Woolton.

Number of voluntary attendances	4,760
,, sent by midwives	3,736
,, recommended by friends	1,390
,, of return cases	4,348
,, sent by medical practitioners	1,495
,, ,, health visitors	179
,, ,, hospitals	575
,, ,, relieving officers	3

All ante-natal clinics (including municipal and voluntary clinics).

Total new cases	16,486
Total attendances	94,444

It is interesting to note that approximately 90 per cent. of the mothers visited by the health visitors, under the Notification of Births Acts, attend the ante-natal clinics.

Mothers who stay at home for their confinements and have no women relations or friends to assist them in their housekeeping are very grateful for the provision of a home help. Home helps are women who can take the place of the housewife in the home, and cook, clean and attend to the children. They are provided by the Women's Service Bureau, Gambier Terrace. This organisation also provides maternity bags and sterilised accouchement sets, which are a great boon to very poor mothers and to those who unexpectedly bear twins. Midwives are encouraged to visit the homes of their patients and to investigate carefully the arrangements for confinement. Where these conditions are unsatisfactory, every effort is made to rectify them at once.

Post-natal examination of recently confined mothers.—Mothers are encouraged to attend the ante-natal clinics after the birth of the infant has taken place. This is for the purpose of examination to ascertain the existence of any morbid condition which might have occurred owing to the confinement. Such lesions, if left untreated, may give rise to much disability and suffering later.

Child Welfare Clinics (for Children up to five years of Age).

Child welfare clinics have a three-fold aim. First, to instruct mothers in the care and feeding of infants and young children; second, to supervise the progress of the young child and to prevent, as far as possible, unnecessary illness due to ignorance of mothers; and third, to assist in restoring the mother to health and in establishing natural feeding. Talks are given to mothers on hygiene, and classes are held at which instruction in knitting, cutting out and making children's clothes is given.

It will be noted that these clinics do not in any sense take the place of a hospital, dispensary or private doctor's consultation. Accessory foods, such as cod liver oil, emulsion, and so forth, are given on a doctor's order at cost price. In the case of infants whose mothers are unable to breast-feed them, Tuberculin-tested milk or dried milk may be ordered by the clinic doctors. (A fuller account of this subject comes under the section dealing with milk depots.)

The sources of admission to the child welfare clinics are similar to those of the ante-natal clinics, but mothers having once attended an

infant clinic frequently attend as a matter of course with each succeeding child.

The value of the mother's attendance at a clinic is increased by visits to her home which are paid by the health visitor, who has either registered or weighed her baby or taken notes of the doctor's advice at the clinic.

Children who have been seen by the doctor at a clinic are visited in order to ascertain if the doctor's instructions are understood and are being properly carried out.

The following figures give the number of children admitted to the various child welfare clinics in the city :—

Admissions during the year—	
Under 1 year of age	11,245
Aged 1-5 years	1,437
	12,682
Total attendances—	
Under 1 year of age	133,187
Aged 1-5 years	65,450
	198,637

There are 24 centres at which 59 sessions are held per week.

The percentage of attendances amounted to 64·6 of the births.

The Health Visitors' Work carried out in the Homes.

Visiting in the homes under the Notification of Births Acts has been carried out since 1907 in Liverpool, and since 1st October, 1937, under the Public Health Act, 1936, when the Notification of Births Act, 1907, was repealed. This establishes contact with the mother and child as soon as the puerperium is over and follows on the attendance of the doctor or midwife or on the patient's discharge from hospital. At this time, advice is given and the mother (or child) referred to her own doctor or to an infant clinic.

Visits in this connection are continued periodically, whether the child attends a clinic or not. Notes are made on the general progress and children are referred for appropriate treatment for defects, when required.

Home visiting is a necessary adjunct to the ante-natal, post-natal and child welfare clinics. Frequently the directions and advice given in the clinic are not clearly understood by the mother and require further explanation. This is best given informally in the home. The home conditions are sometimes found to be inimical to the welfare of the child or even of the whole family, and it is only by a careful investigation of the circumstances that suitable corrections can be made.

It is noted elsewhere in this report that infantile diarrhœa is much less prevalent now than in former years. To a large extent this is due to the careful visiting in the early part of the year of homes and areas likely to be affected, so that householders may be warned of the danger of flies and advised as to methods adopted for their destruction.

All notified cases of measles, whooping cough and pneumonia nursed at home are also visited by members of the health visiting staff. Appropriate assistance is given, either in the actual nursing of the child or in arranging for its efficient isolation from other members of the family.

By arrangement with the School Medical Department, pre-school children—that is those under the age of school attendance—suffering from defects of eyes or ears or from orthopædic defects may receive treatment and advice at the School Medical Department's special clinics. During 1938, 769 children under five years of age were referred for special treatment to this department summarised as follows:—

Defective vision	288
Otorrhœa	337
Orthopædic defects	144

Home visits were paid in each case, and all the children were found to be unable to obtain the necessary treatment from private practitioners on account of poverty, or from hospital out-patient departments on account of the already long waiting lists, necessitating loss of time and consequent risk of irremediable defects.

Statistics Relating to Home Visits.

Visits to expectant mothers by health visitors	8,042
Visits under the Notification of Births Act, 1915, *and Public Health Act*, 1936.	
Number of births visited during the year	16,271
Re-visits to births during the year	76,058
Re-visits to infants of 1 year to 5 years of age	101,694
Visits paid to homes of nurse children under the Public Health Act, 1936, *and Children and Young Persons Act*, 1932	1,214
After-care visits to children under one year of age discharged from Municipal Hospitals—	
Visits to 418 cases from Alder Hey Hospital	1,209
,, ,, 153 cases from Olive Mount Hospital	377
Visits to cases of infectious disease, etc.—	
Visits to cases of measles (first visits, 2,890)	6,505
,, ,, ,, ,, whooping cough (first visits, 97) ...	513
,, ,, ,, ,, pneumonia	535
,, ,, ,, ,, infantile diarrhœa	338

Child Life Protection.

Administration of Children and Young Persons Act, 1932, and Public Health Act, 1936, Sections 206-220.

(*a*) Number of persons receiving children for reward on the Register at the end of the year 1938	101
(*b*) Number of children on the Register.	
(1) at the end of the year	170
(2) who died during the year (in homes)	2
(3) in hospitals	1
(4) on whom inquests were held during the year ...	nil
(*c*) Proceedings taken during the year	nil

Neo-natal Mortality.

During the year the number of deaths of children under 28 days old (Neo-natal Deaths) amounted to 466, equal to a rate of 29 per 1,000 live births registered.

Special enquiry was made into the deaths of all these newly-born children, i.e., those under 28 days old.

Premature birth is responsible for more than half the total number of deaths of infants during the neo-natal period. In the majority of cases, it has not been possible to assign definite causes of prematurity. Seasonal influence appears to have no bearing on the occurrence of these deaths. It will be noted, however, how few of the total deaths occur at this early age from gastro-enteritis or diarrhœa. (See Appendix " D ".)

Deaths from Diarrhœa and Enteritis.
Results of Enquiry.

Enquiries were made into the 121 deaths recorded during the year 1938. In a few instances, the parents could not be traced. In 5 cases, there was a prominent history of wasting or marasmus; in 25 there were respiratory complications; congenital abnormality accounted for two deaths, in 7 cases the infant was known to have been premature and in 36 other cases there was associated disease. In 6 instances where death was ascribed to enteritis there was no diarrhœa.

Seven deaths were of infants under 28 days old (neo-natal deaths), the ages being as follows:—

Under 7 days	2
7 days and under 14 days	1
14 days and under 21 days	1
21 days and under 28 days	3

Acute intestinal infections are uncommon at these early ages when the child is usually breast-fed. Three of these infants were having complementary artificial feeds at the time of death.

Social Conditions.—Eleven of the children who died were illegitimate. In 69 cases the home conditions and storage of food were unsuitable; in 42 cases the father was unemployed.

Methods of feeding.—The majority of children were artificially fed in whole or in part. Artificial feeding, if not carefully carried out, not only predisposes the child to a fatal infection by rendering it more susceptible, but provides the medium, usually milk, by which the infection is conveyed.

Classified according to feeding, the cases were:—

Entirely breast-fed	12
Breast and artificial feeds at time of death	11
*Previously breast-fed, but artificially fed at time of death...	89
Artificially fed entirely	5
No history obtainable or inadquate information	4

*43 of these cases were breast-fed for one month or less.

See also pages 71-74 for further details relating to diarrhœa and enteritis.

Carnegie Welfare Centre.

The Carnegie Welfare Centre has now completed 15 years as a most useful and educational welfare centre in the city.

During 1938 the work of former years has been carried on, but with an increased number of attendances in many departments.

Child welfare clinics are held on four afternoons per week, and one ante-natal clinic is held each week. The attendances at the clinics have shewn an increase each year on those of the year preceding. The classes for knitting, sewing, etc., have also been well attended.

Observation Wards.—The number of infants admitted during 1938 was 116, and the reasons for admission were:—

1.	Failure to make normal progress	37
	24 improved.	
	6 still under treatment.	
	4 transferred to hospital.	
	3 taken home at parents' request.	
2.	Infantile Dyspepsia and Prematurity	10
	6 improved.	
	3 transferred to hospital.	
	1 still under treatment.	
3.	Rickets	56
	44 improved.	
	2 taken home for private medical attention.	
	4 still under treatment.	
	6 transferred to hospital.	
4.	Observation Cases	13
	13 sent home well.	
	Total ...	116

The average duration of stay in the wards has been 41·1 days, but the actual time has varied from a few days to several weeks.

Ultra-violet irradiation clinic.

Three sessions are held each week. During the summer months the numbers attending were reduced, but on the onset of the colder weather, numbers rapidly increased.

Only those rachitic children definitely non-surgical are treated. Those admitted to the wards give better results on the whole than those attending as out-patients. (No inference of any value can be drawn from this fact, as cases are taken as they are sent from the clinics, and no control observations can conveniently be made).

The children who are classed under the heading of "Lack of normal progress" are those in whom no very definite cause for their failure to gain weight normally is apparent. Occasionally the condition is dated from some previous illness or even from weaning. It is frequently due to poverty, mismanagement, neglect, or overcrowding with resultant conditions of defective hygiene. Occasionally

some latent infection is responsible, and more often than not a combination of adverse conditions is found.

New cases during 1938	546
Attendances	6,983
Still under treatment	45

Rickets 235

143 good results.
13 poor results.
79 discontinued treatment before the course was completed.

Failure to make normal progress 232

145 good results.
21 poor results.
66 discontinued treatment.

Anæmia and debility... 34

17 good results.
8 poor results.
9 discontinued treatment.

Dental Clinics.

Seven Dental Clinics are held weekly for expectant mothers, nursing mothers and children up to five years of age. Six of these clinics are municipal and one is a voluntary clinic.

Attendances at all clinics—

New cases	1,953
Ante-natal and post-natal mothers	1,671
Children	282
Number of extractions	8,461
Total attendances	3,200

DAY NURSERIES.

The Day Nurseries in Liverpool are 6 in number, 4 of which are under the control of the Maternity and Child Welfare Sub-Committee. Children from the age of one month to five years are admitted, and may remain from 7 a.m. to 7 p.m. on week-days and 7 a.m. to 1 p.m. on Saturdays.

A daily or weekly charge is made for each child, which is based on an income and expenditure figure. Only the children of mothers who are obliged to work by reason of widowhood, unemployment or incapacity of their husbands, or where home conditions are otherwise unsuitable, are admitted.

The two voluntary nurseries are administered on somewhat similar lines to those under the control of the Maternity and Child Welfare Sub-Committee.

The total accommodation in the Voluntary Nurseries is 112.

Statistics relating to Corporation Day Nurseries.*

NEW ADMISSIONS

Age.	West-minster Road.	Smith-down Lane.	Gt. George Square.	Garston.
Under 1 year	6	5	10	3
1 year—2 years	14	3	10	7
Over 2 years	6	8	12	1
TOTAL	26	16	32	11
Total attendances	5,045	1,610	2,491	2,784

Condition on Admission.

Good	12	5	3	4
Fairly good	8	5	17	1
Poor	6	6	12	6
TOTAL	26	16	32	11

Number of Cases of Illness contracted during the year.

Infectious	30	5	4	11
Other illness	—	2	2	—
TOTAL	30	7	6	11

* The four Corporation Day Nurseries were closed by the end of May, 1938.

MILK DEPOTS.

The milk which is supplied from these centres and depots consists entirely of Tuberculin-tested milk.

There were 7,131 persons on the books at the beginning of the year, 16,904 were admitted during the year, and 8,017 who had milk previously and had been re-admitted, making a total of 24,921. The supply of milk is given on the presentation by the applicant of a note from a doctor, and in a few instances it was allowed on production of written requests from midwives. The following is a statement of cases during the year:—

Centres.	Ante-Natal.	Nursing Mothers.	Infants.		Liverpool Child Welfare Association.	Totals.
			Under 1 year of age.	1 Year and under 2 Years of Age.		
Netherfield Road ...	1,043	783	426	77	630	2,959
Earle Road ...	417	525	436	99	385	1,862
Park Road ...	639	466	338	80	379	1,902
Boaler Street ...	543	462	351	51	444	1,851
Holly Street ...	751	510	302	115	474	2,152
Rathbone Road ...	225	467	321	58	132	1,203
Mill Street ...	116	169	138	31	134	588
Scarisbrick Road ...	224	390	227	15	410	1,266
*Westminster Road	144	82	63	17	101	407
Agents	147	1	273	332	1,961	2,714
	4,249	3,855	2,875	875	5,050	16,904

* Westminster Road Milk Depot was opened to relieve Netherfield Road Depot at the beginning of October, 1938.

The total quantity of milk supplied during the year was 103,192 gallons, and 325,313 bottles were filled. The amount of dried milk supplied was 399,695 lbs.

Total cases on books, January 1st,, 1938	7,131
,, ,, admitted during the year	16,904
,, ,, re-admitted during the year	8,017
Total supplied during 1938	32,052
Remaining on the books at the end of the year ...	6.565

Quarterly Average—January, February, March ...	7,478
,, ,, April, May, June	7.465
,, ,, July, August, September ...	7,210
,, ,, October, November, December ...	7,143

The highest number supplied with milk at one time was 7,721 during the week ended March 18th.

Since the initiation of the scheme in 1901 down to the end of the year 1938 the number of persons supplied with milk has reached a total of 257,507.

A scale of assessment is in operation which is amended, in each case, about every four weeks.

Sessions are held at each milk depot weekly or bi-weekly for the purpose of interviewing mothers supplied with milk from that depot. Each mother's circumstances are reviewed periodically, and the necessary adjustments made in their assessments. The number who attended these interviews was 56,066. The number of visits paid during the year to children in their own homes by the health visitors attached to the depots in order to see that the children were being properly fed and the milk properly used, was 5,963. From time to time information concerning cases is received from the district health visitors and from clinics.

TUBERCULOSIS

TUBERCULOSIS.

Notification.

Public Health (Tuberculosis) Regulations, 1930.

SUMMARY OF NOTIFICATIONS DURING THE PERIOD FROM 1ST JANUARY, 1938, TO 31ST DECEMBER, 1938:—

TABLE I.

Age-periods.	Notifications on Schedule A. Number of Primary Notifications of New Cases of Tuberculosis. 0–	1–	5–	10–	15–	20–	25–	35–	45–	55–	65–	Total Primary Notifications.	Total Notifications on Form A. (including duplicates.)
Pulmonary—													
Males	5	17	33	26	57	86	146	124	112	89	24	719	866
Females	6	15	24	34	122	126	168	88	47	24	5	659	805
Non-Pulmonary—													
Males	2	45	36	19	37	10	15	10	6	—	6	186	234
Females	1	34	36	27	25	25	30	12	5	5	—	200	232

Out of a total of 1,378 primary notifications of pulmonary tuberculosis 1,007 were received from private and 371 from hospital practitioners, whilst in the case of non-pulmonary tuberculosis these figures are 151 and 235 respectively, forming a total of 386.

Practically all cases notified under the above regulations are examined by the Tuberculosis Officer, the only exceptions being those cases in which, for some specific reason, exemption from examination is requested either by the patient or the medical practitioner concerned.

The Notification and Dispensary Registers.

In Table II is shown the number of cases on the notification and dispensary registers at the end of the year, the difference (3,112) between the figures for the respective registers representing the number of patients who, for various reasons, discontinued public treatment under this authority before reaching the "cured" stage. A few notified cases are also included in which the patients have refused to make use of the treatment facilities which are available.

TABLE II

	Pulmonary Tuberculosis.		Non-Pulmonary Tuberculosis.		Totals.
	Males.	Females.	Males.	Females.	
Number of cases on the Notification Register ...	2,894	2,451	1,101	1,117	7,563
Number of established cases on the Dispensary Register	1,791	1,462	598	600	4,451
Difference	1,103	989	503	517	3,112

In Table III is given an analysis of the 3,112 persons whose names are on the notification register but are not on the dispensary register, according to the latest information concerning them.

TABLE III

	Pulmonary Tuberculosis.						Non-Pulmonary Tuberculosis.						Totals.
	Males.			Females.			Males.			Females.			
	State of the Disease.						State of the Disease.						
Whereabouts Known.	Arrested.	Quiescent.	Active.	Arrested.	Quiescent.	Active.	Arrested.	Quiescent.	Active.	Arrested.	Quiescent.	Active.	
Totals	32	246	825	45	223	721	23	215	265	26	223	268	3,112

Tuberculosis Clinics and Dispensary System.

During 1938 the Tuberculosis Officers have conducted 3,862 consultations either at the Tuberculosis Clinics, or in the patients' homes, in addition to which 2,372 other reports on cases have been rendered to medical practitioners.

A statistical summary of the work of the Tuberculosis Clinics, so far as all cases on the dispensary registers are concerned, is given in Table IV, and in addition there are included a few statistics of a general nature.

TABLE IV.

Diagnosis.	Pulmonary.				Non-Pulmonary				Total.				Gra Tot
	Adults.		Children		Adults.		Children		Adults.		Children.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
A.—New Cases examined during the year (excluding contacts):													
(a) Definitely tuberculous ...	464	384	42	60	67	85	82	72	531	469	124	132	1,25
(b) Diagnosis not completed ...	—	—	—	—	—	—	—	—	9	16	13	11	4
(c) Non-tuberculous	—	—	—	—	—	—	—	—	336	417	267	205	1,22
B.—Contacts examined during the year :—													
(a) Definitely tuberculous ...	3	5	10	6	1	—	2	3	4	5	12	9	3
(b) Diagnosis not completed	—	—	—	—	—	—	—	—	—	—	—	—	—
(c) Non-tuberculous	—	—	—	—	—	—	—	—	56	138	262	237	69
C.—Cases written off the Dispensary Register as :—													
(a) Recovered	49	44	15	11	17	25	32	25	66	69	47	36	21
(b) Non-tuberculous (including any such cases previously diagnosed and entered on the Dispensary Register as tuberculous)	—	—	—	—	—	—	—	—	392	555	529	442	1,91
D.—Number of Cases on Dispensary Register on Dec. 31st													
(a) Definitely tuberculous ...	1,540	1,257	251	205	236	286	362	314	1,776	1,543	613	519	4,45
(b) Diagnosis not completed ...	—	—	—	—	—	—	—	—	9	16	13	11	4

1. Number of cases on Dispensary Register on January 1st	4,818	2. Number of cases transferred from other areas and cases returned after discharge under Head 3 in previous years ...	3
3. Number of cases transferred to other areas, cases not desiring further assistance under the scheme, and cases "lost sight of"	1,027	4. Cases written off during the year as Dead (all causes)	7
5. Number of attendances at the Dispensary (including Contacts)	15,328	6. Number of Insured Persons under Domiciliary Treatment on the 31st December	8
7. Number of consultations with medical practitioners :— (a) Personal ... ... (b) Other	41 3,821*	8. Number of visits by Tuberculosis Officers to homes (including personal consultations)	9
9. Number of visits by Nurses or Health Visitors to homes of patients	26,365	10. Number of :— (a) Specimens of sputum, etc., examined (b) X-ray examinations made in connection with Dispensary work. ...	3,1 1,1
11. Number of "Recovered" cases restored to Dispensary Register, and included in A (a) and A (b) above...	5	12. Number of "T.B. plus" cases on Dispensary Register on December 31st ...	1,8

* In addition to 3,862 consultations, 2,372 reports concerning patients were sent to medical practition

General Remarks.

The city death rates for the year 1938 for pulmonary and non-pulmonary tuberculosis are 0·77 and 0·12 per 1,000, respectively, making a total of 0·89 per 1,000 for all forms of the disease.

These figures show a slight decrease as compared with the previous year and are the lowest yet recorded for the city.

Notification by medical practitioners, both in private or other spheres of practice, still constitutes the main channel through which cases reach the notice of the Tuberculosis Officers.

All unnotified cases are the subject of personal investigation by the Chief Clinical Tuberculosis Officer, who approaches the practitioner concerned with a view to ascertaining the reason for failure to notify.

An analysis of such cases is given in Table XVII, wherein it will be observed that, in the case of pulmonary tuberculosis, omission to notify, through oversight, is infrequent, there being in most other cases reasonable justification for such failure. On the other hand, the percentage (7 per cent.) of overlooked notifications in the case of non-pulmonary disease is not so good as previously. This is probably accounted for by the fact that the realisation of risk of infection, in pulmonary cases, is always present in the mind of the medical practitioner who, therefore, possibly attaches a greater importance to them than he does to the non-pulmonary types.

The Domiciliary Scheme, whereby non-insured tuberculous patients were allowed to select their own medical attendants whose accounts, based on a fixed scale, were met by the Liverpool Corporation, was abandoned as from May 31st, 1938. Since this date such patients are attended by the District Medical Officers or, alternatively, they may make private arrangements with their own practitioners.

Public Health (Prevention of Tuberculosis) Regulations, 1925 (relating to persons suffering from pulmonary tuberculosis employed in

the milk trade) and Public Health Act, 1936, Section 172 (relating to compulsory removal to hospital of persons suffering from tuberculosis).

It was not necessary, during this year, to take any action under the above enactments. In such cases as did come to the notice of the Tuberculosis Officers, where patients were associated with the milk trade, it was found that they had already relinquished such employment or did so immediately upon receiving advice.

Radiology. During the year 1,146 cases have been the subject of radiological examination at Fazakerley Sanatorium in connection with diagnostic work at the Tuberculosis Clinics. Investigation or treatment at the sanatoria has also entailed 5,593 radiographs and 6,191 screenings.

Light Therapy. In accordance with arrangements previously described, 6,701 treatments by Ultra Violet Rays were carried out at Belmont Road Hospital in addition to a total of 4,162 such treatments at the Sanatoria. The conditions treated included Lupus Vulgaris, Lupus Verrucosa, Bazin's Disease, Tubercular Joint Disease, and Tubercular Cervical and Mesenteric Glands.

Mantoux Reaction. This intradermal test has been applied in 491 cases at the Tuberculosis Clinics, and where negative, has been of considerable assistance in diagnosis.

Contacts. During the year the tuberculosis officers examined 723 persons who were known to have been in contact with infectious cases of pulmonary tuberculosis and found evidence of disease in 30, or 4·14 per cent.

Every effort is made by the Tuberculosis Officers to trace and supervise, if possible, all persons known to have been in contact with an established case of tuberculosis. Such persons are periodically examined with a view to detecting the presence of the disease in an early stage. The Tuberculosis Officers and their nursing and visiting staffs endeavour, in every way passible, to educate the public, with whom

TABLE V—PULMONARY TUBERCULOSIS.

(*a*) The condition at the end of 1938 of all patients remaining on the Dispensary Register; and (*b*) the reasons for the removal of all cases written off the Register. The Table is arranged according to the years in which the patients were first entered on the Dispensary Register as definite cases of pulmonary tuberculosis, and their classification at that time.

Condition at the time of the last record made during the year to which the return relates.			Previous to 1928.					1928.					1929.					1930.					1931.					1932.					1933.				
			Class T.B. Minus.	Class T.B. Plus.				Class T.B. Minus.	Class T.B. Plus.				Class T.B. Minus.	Class T.B. Plus.				Class T.B. Minus.	Class T.B. Plus.				Class T.B. Minus.	Class T.B. Plus.				Class T.B. Minus.	Class T.B. Plus.				Class T.B. Minus.	Class T.B. Plus.			
				Group 1	Group 2	Group 3	Total Class T.B. Plus.		Group 1	Group 2	Group 3	Total Class T.B. Plus.		Group 1	Group 2	Group 3	Total Class T.B. Plus.		Group 1	Group 2	Group 3	Total Class T.B. Plus.		Group 1	Group 2	Group 3	Total Class T.B. Plus.		Group 1	Group 2	Group 3	Total Class T.B. Plus.		Group 1	Group 2	Group 3	Total Class T.B. Plus.
(*a*) Not under treatment at Dispensary.	Disease Arrested	Adults M.	24	14	14	1	29	2	1	2	...	3	9	1	2	...	3	1	...	3	...	3	6	1	4	...	5	13	2	2	...	4	13	5	6	...	11
		Adults F.	18	1	1	...	2	1	1	2	...	3	4	...	1	...	1	2	1	1	...	2	4	2	4	...	6	6	1	6	...	7	9	...	8	...	8
		Children	11	...	...	...	...	2	...	...	...	...	6	...	...	...	...	4	...	...	...	...	7	2	...	1	3	17	...	...	...	...	30	...	2	...	2
	Disease not Arrested.	Adults M.	28	36	43	5	84	8	2	10	5	17	10	3	12	1	16	2	6	20	3	29	5	6	30	4	40	5	6	35	2	43	10	8	36	...	44
		Adults F.	21	14	26	1	41	...	2	12	...	14	5	2	12	2	16	1	4	12	2	18	5	3	14	1	18	6	5	19	1	25	8	7	30	1	38
		Children	20	1	6	...	7	1	...	1	...	1	4	...	...	...	...	4	...	...	...	...	7	1	2	...	3	6	...	1	...	1	9	2	1	...	3
	Condition not ascertained during the year		7	4	13	1	18	4	1	3	...	4	1	...	2	...	2	1	1	12	...	13	3	...	8	...	8	8	4	9	...	13	9	3	18	1	22
	Total on Dispensary Register at 31st December		129	70	103	8	181	18	7	30	5	42	39	6	29	3	38	15	12	48	5	65	37	15	62	6	83	61	18	72	3	93	88	25	101	2	128
(*b*) Removed from Dispensary Register.	Discharged as Recovered	Adults M.	420	74	22	1	97	23	4	3	...	7	21	4	3	...	7	13	1	2	...	3	16	...	2	...	2	10	...	...	...	...	6	...	...	...	...
		Adults F.	432	21	14	...	35	23	4	4	...	8	29	1	...	...	1	14	...	...	...	...	14	...	2	...	2	11	2	...	...	2	6	...	...	...	...
		Children	524	4	2	1	7	35	...	...	...	...	36	...	...	1	1	32	...	...	...	...	28	...	...	...	...	14	...	...	...	...	6	...	...	...	...
	Lost sight of, or otherwise removed from Dispensary Register		4,568	386	327	51	764	324	10	44	8	62	304	17	50	8	75	259	17	60	7	84	285	14	71	7	92	214	28	65	1	94	200	20	102	8	130
	Dead	Adults M.	888	643	1222	949	2,814	101	23	159	146	328	103	24	156	140	320	67	16	178	142	336	58	19	185	149	353	65	27	193	106	326	57	5	214	125	344
		Adults F.	618	328	744	671	1,743	70	13	103	108	224	81	8	124	95	227	75	15	135	93	243	55	13	128	112	253	44	24	154	80	258	37	5	150	85	240
		Children	320	36	75	87	198	30	1	9	8	18	43	...	7	9	16	22	3	9	12	24	15	...	10	13	23	32	1	5	10	16	23	...	8	8	16
	Total written off Dispensary Register		7,770	1492	2406	1769	5,655	606	55	322	270	647	617	54	340	253	647	482	52	384	254	690	471	46	398	281	725	390	82	417	197	696	335	30	474	226	730
	Grand Totals		7,899	1562	2509	1768	5,839	624	62	352	275	689	656	60	369	256	685	497	64	432	259	755	508	61	460	287	808	451	100	489	200	789	423	55	575	228	858

Condition at the time of the last record made during the year to which the return relates.			1934.					1935.					1936					1937.					1938.				
			Class T.B. Minus.	Class T.B. Plus.				Class T.B. Minus.	Class T.B. Plus.				Class T.B. Minus.	Class T.B. Plus.				Class T.B. Minus.	Class T.B. Plus.				Class T.B. Minus.	Class T.B. Plus.			
				Group 1	Group 2	Group 3	Total Class T.B. Plus.		Group 1	Group 2	Group 3	Total Class T.B. Plus.		Group 1	Group 2	Group 3	Total Class T.B. Plus.		Group 1	Group 2	Group 3	Total Class T.B. Plus.		Group 1	Group 2	Group 3	Total Class T.B. Plus.
(*a*) Not under treatment at Dispensary.	Disease Arrested	Adults M.	20	4	3	...	7	18	2	3	...	5	8	...	1	...	1	...	...	...	...	...	...	...	...	...	...
		Adults F.	13	2	6	...	8	19	2	...	...	2	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Children	33	...	...	...	...	19	...	...	...	...	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Disease not Arrested.	Adults M.	15	5	74	3	82	25	16	71	3	90	43	21	91	4	116	62	29	65	1	95	102	33	176	9	218
		Adults F.	20	6	38	...	44	26	15	62	1	78	52	8	56	4	68	63	23	59	2	84	110	15	134	11	160
		Children	17	...	3	...	3	24	2	1	...	3	44	5	2	...	7	47	3	...	...	3	82	2	5	3	10
	Condition not ascertained during the year		12	2	19	...	21	21	7	31	3	41	21	5	39	1	45	47	9	54	4	67	...	...	...	...	...
	Total on Dispensary Register at 31st December		130	19	143	3	165	152	44	168	7	219	183	39	189	9	237	219	64	178	7	249	294	50	315	23	388
(*b*) Removed from Dispensary Register.	Discharged as Recovered	Adults M.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Adults F.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Children	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Lost sight of, or otherwise removed from Dispensary Register		147	11	66	3	80	160	15	85	5	105	153	14	50	5	69	71	16	42	1	59	26	3	24	2	29
	Dead	Adults M.	37	11	203	118	332	44	6	150	98	254	35	6	115	90	211	37	6	98	71	175	19	...	43	64	107
		Adults F.	31	4	155	73	232	40	5	124	52	181	28	5	81	69	155	21	2	69	52	123	15	...	33	50	83
		Children	23	...	5	7	12	12	...	5	8	13	17	1	3	8	12	18	1	1	8	10	12	...	1	5	6
	Total written off Dispensary Register		238	26	429	201	656	256	26	364	163	553	233	26	249	172	447	147	25	210	132	367	72	3	101	121	225
	Grand Totals		368	45	572	204	821	408	70	532	170	772	416	65	438	181	684	366	89	388	139	616	366	53	416	144	613

TABLE VI—NON-PULMONARY TUBERCULOSIS.

(*a*) The condition at the end of 1938 of all patients remaining on the Dispensary Register; and (*b*) the reasons for the removal of all cases written off the Register.

Condition at the time of the last record made during the year to which the return relates.			Previous to 1928.					1928.					1929.					1930.				
			Bones and Joints	Abdominal	Other Organs	Peripheral Glands	Total	Bones and Joints	Abdominal	Other Organs	Peripheral Glands	Total	Bones and Joints	Abdominal	Other Organs	Peripheral Glands	Total	Bones and Joints	Abdominal	Other Organs	Peripheral Glands	Total
(*a*) Remaining on Dispensary Register on 31st December.	Disease Arrested.	Adults M.	3	...	...	1	4	1	...	...	...	1	1	...	...	...	1	1	...	1	...	2
		Adults F.	6	...	1	7	14	...	...	..	...	..	...	...	...	1	1	2	...	...	1	3
		Children	9	2	1	5	17	3	...	...	1	4	4	...	...	...	4	7	2	...	4	13
	Disease not Arrested.	Adults M.	4	...	...	1	5	...	1	1	...	2	4	...	1	...	5	1	...	...	...	1
		Adults F.	6	...	1	3	10	1	1	1	...	3	...	1	2	...	3	2	...	1	..	3
		Children	12	1	2	3	18	3	...	2	...	5	4	2	...	3	9	6	2	...	2	10
	Condition not ascertained during the year		4	1	...	2	7	1	...	...	..	1	1	1	...	2	4	1	...	1	1	3
	Total on Dispensary Register at 31st December		44	4	5	22	75	9	2	4	1	16	14	4	3	6	27	20	4	3	8	35
	Transferred to Pulmonary		35	20	11	65	131	5	4	2	4	15	4	1	...	5	10	5	4	2	11	22
(*b*) Not now on Dispensary Register and reasons for removal therefrom.	Discharged as Recovered.	Adults M.	30	3	9	15	57	5	1	3	1	10	2	...	1	3	6	5	2	...	4	11
		Adults F.	28	9	9	39	85	2	...	...	7	9	4	...	1	6	11	4	4	...	7	15
		Children	198	167	22	213	600	21	20	2	32	75	12	12	2	29	55	15	13	4	26	58
	Lost sight of, or otherwise removed from Dispensary Register.		618	433	156	1072	2,279	53	39	16	116	224	52	52	21	111	236	55	54	14	98	221
	Dead	Adults M.	72	18	18	17	125	9	1	4	...	14	7	3	8	2	20	7	1	2	3	13
		Adults F.	48	20	16	14	98	4	2	2	1	9	7	5	3	3	18	5	5	2	...	12
		Children	85	123	96	24	328	15	19	17	1	52	13	18	17	6	54	12	8	20	4	44
	Total written off Dispensary Register		1079	773	326	1,394	3,572	169	82	44	158	393	97	90	53	160	400	103	87	42	142	374
	Grand Totals of (*a*) and (*b*) (excluding those transferred to Pulmonary).		1123	777	331	1,416	3,647	118	84	48	159	409	111	94	56	166	427	123	91	45	150	409

Condition at the time of the last record made during the year to which the return relates.			1931.					1932.					1933.					1934.				
			Bones and Joints	Abdominal	Other Organs	Peripheral Glands	Total	Bones and Joints	Abdominal	Other Organs	Peripheral Glands	Total	Bones and Joints	Abdominal	Other Organs	Peripheral Glands	Total	Bones and Joints	Abdominal	Other Organs	Peripheral Glands	Total
(*a*) Remaining on Dispensary Register on 31st December.	Disease Arrested.	Adults M.	3	...	...	1	4	5	...	1	1	7	...	...	2	1	3	3	...	3	...	6
		Adults F.	...	...	1	1	2	4	...	1	3	8	1	...	2	1	4	3	1	...	2	6
		Children	7	2	1	5	15	14	6	...	8	28	8	7	2	10	27	5	10	...	19	34
	Disease not Arrested.	Adults M.	1	...	...	1	2	7	...	1	...	8	3	...	2	...	5	1	1	3	1	6
		Adults F.	3	...	1	2	6	2	...	1	3	6	2	...	3	2	7	2	2	...	2	6
		Children	4	1	1	1	7	14	2	2	5	23	7	7	1	7	22	9	5	1	11	26
	Condition not ascertained during the year		4	...	1	2	7	7	6	2	...	15	5	4	...	7	16	8	1	...	8	17
	Total on Dispensary Register at 31st December		22	3	5	13	43	53	14	8	20	95	26	18	12	28	84	31	20	7	43	101
	Transferred to Pulmonary		6	...	3	8	17	7	3	2	3	15	5	8	...	6	19	2	7	2	3	14
(*b*) Not now on Dispensary Register and reasons for removal therefrom.	Discharged as Recovered.	Adults M.	2	2	3	4	11	6	1	1	5	13	1	1	1	4	7	...	1	...	1	2
		Adults F.	3	...	...	4	7	3	3	2	10	18	2	5	1	5	13	1	...	...	1	2
		Children	6	18	2	24	50	8	19	1	34	62	5	12	...	24	41	2	7	...	15	24
	Lost sight of, or otherwise removed from Dispensary Register.		67	54	22	112	155	66	60	20	118	264	56	49	16	116	237	46	26	16	142	230
	Dead	Adults M.	10	1	2	...	13	8	2	2	1	13	3	2	3	2	10	6	3	2	...	11
		Adults F.	6	6	2	2	16	6	2	3	1	12	8	4	1	1	14	2	...	4	3	9
		Children	6	11	24	1	42	10	11	53	...	74	5	10	51	3	69	1	4	38	2	45
	Total written off Dispensary Register		100	92	55	147	294	107	98	82	169	456	80	83	73	155	391	58	41	60	164	323
	Grand Totals of (*a*) and (*b*) (excluding those transferred to Pulmonary).		122	95	60	160	337	160	112	90	189	551	106	101	85	183	475	89	61	67	207	424

Condition at the time of the last record made during the year to which the return relates.			1935.					1936.					1937.					1938.				
			Bones and Joints	Abdominal	Other Organs	Peripheral Glands	Total	Bones and Joints.	Abdominal.	Other Organs.	Peripheral Glands.	Total	Bones and Joints.	Abdominal.	Other Organs.	Peripheral Glands.	Total	Bones and Joints	Abdominal	Other Organs	Peripheral Glands	Total
(*a*) Remaining on Dispensary Register on 31st December.	Disease Arrested.	Adults M.	3	3	2	2	10	5	1	2	5	13	...	...	1	6	7	1	...	...	1	2
		Adults F.	3	2	1	3	9	1	1	2	6	10	1	3	3	5	12	...	...	...	1	1
		Children	11	12	...	26	49	6	12	...	28	46	4	9	1	20	34	1	1	...	7	9
	Disease not Arrested.	Adults M.	3	2	3	1	9	3	...	2	2	7	7	3	3	2	15	16	8	11	13	48
		Adults F.	5	2	3	1	11	3	5	3	4	15	4	3	4	7	18	23	12	13	23	71
		Children	20	4	...	11	35	9	8	...	20	37	5	9	2	26	42	39	22	3	48	112
	Condition not ascertained during the year		16	4	3	3	26	22	4	1	9	36	25	3	2	8	38	...	...	...	...	...
	Total on Dispensary Register at 31st December		61	29	12	47	149	49	31	10	74	164	46	30	16	74	166	80	43	27	93	243
	Transferred to Pulmonary		8	3	...	6	17	3	4	...	4	11	...	2	2	5	9	...	...	...	...	...
(*b*) Not now on Dispensary Register and reasons for removal therefrom.	Discharged as Recovered.	Adults M.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Adults F.	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Children	...	...	...	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Lost sight of, or otherwise removed from Dispensary Register.		38	24	21	88	171	18	19	15	79	131	8	10	12	47	77	5	3	4	16	28
	Dead	Adults M.	3	...	7	...	10	9	1	2	...	12	5	4	2	2	13	3	2	2	...	7
		Adults F.	5	1	5	1	12	5	...	2	1	8	...	3	3	2	8	...	1	3	...	4
		Children	8	4	32	1	45	1	4	38	4	47	5	3	34	1	43	1	3	26	...	30
	Total written off Dispensary Register		54	30	65	92	241	33	24	57	84	198	18	20	51	52	141	9	9	35	16	69
	Grand Totals of (*a*) and (*b*) (excluding those transferred to Pulmonary).		115	59	77	139	390	82	55	67	158	362	64	50	67	126	307	89	52	62	109	312

they come in contact, in the prevention and treatment of tuberculosis. Leaflets couched in simple language and describing the symptoms and treatment of the disease are distributed at the Central Tuberculosis Office and at the Clinics.

The Condition of Patients known to the Tuberculosis Officers.

A statistical return showing in summary form the condition of all patients whose case records are in the possession of the Tuberculosis Clinics at the end of the year, arranged according to the years in which the patients first came under public medical treatment and according to their classification, is given in the two tables, Table V relating to pulmonary cases, and Table VI to non-pulmonary cases.

It is noteworthy that of 979 new pulmonary cases whose names were entered on the dispensary register during the year, 613 (or 62·6 per cent.) were in a very advanced stage of disease, and by the end of the year, 242 (24·7 per cent.) of the new cases arising during that year were deceased.

In Table VII is given a statistical analysis of the patients under dispensary treatment at the end of the year.

TABLE VII.

PATIENTS UNDER DISPENSARY TREATMENT AT THE END OF THE YEAR.

		Pulmonary.	Non-pulmonary.	Totals.	
Insured Persons	Males	5	1	6	8
	Females	2	—	2	
Non-Insured Persons	Male Adults	8	4	12	174
	Female Adults ...	47	14	61	
	Male Children* ...	22	30	52	
	Female Children* ...	16	33	49	
Totals ...	... ...	100	82	182	

* Under 15 years of age.

In Table VIII is given a statistical summary of the patients who, not needing active treatment, were under dispensary supervision at the end of the year.

TABLE VIII.

PATIENTS NOT NEEDING TREATMENT WHO WERE UNDER DISPENSARY SUPERVISION AT THE END OF THE YEAR.

		Pulmonary.	Non-pulmonary.	Totals.	
Insured Persons	Males	311	82	393	629
	Females	173	63	236	
Non-Insured Persons	Male Adults	137	86	223	1247
	Female Adults ...	274	115	389	
	Male Children* ...	132	222	354	
	Female Children* ...	101	180	281	
Totals ...	... ...	1128	748	1876	

* Under 15 years of age.

Home Nursing.

The domiciliary nursing of both pulmonary and non-pulmonary cases continues to be carried out by the Liverpool Queen Victoria District Nursing Association in accordance with the existing agreement. During the year, 85 pulmonary and 89 non-pulmonary cases were nursed in their homes, and to these cases 8,202 visits were paid. Valuable work has also been performed by the Garston and Grassendale Nursing Association, which has dealt with cases outside the area supplied by the District Nursing Association.

Domiciliary Treatment.

This form of treatment is arranged where indicated and close co-operation obtains between the medical practitioners and the tuberculosis officers. At the end of the year, 1,353 patients remained under domiciliary treatment of whom 873 were persons insured under the National Health Insurance Act, and in receipt of treatment from their panel doctors and 480 were not insured and were under the treatment of District Medical Officers or doctors of their own choice. The domiciliary reports received relating to insured persons numbered 3,724. Table IX shows the position at the end of the year.

TABLE IX.

PATIENTS UNDER DOMICILIARY TREATMENT AT THE END OF THE YEAR.

		Pulmonary.	Non-pulmonary.	Totals.	
Insured Persons	Males	572	30	602	873
	Females	233	38	271	
Non-insured Persons	Male Adults ...	144	15	159	480
	Female Adults ...	246	35	281	
	Male Children*	13	11	24	
	Female Children*	7	9	16	
Totals ...	... ...	1215	138	1353	

* Under 15 years of age.

Co-operation and Co-ordination.

Close co-operation continues between the Tuberculosis Officers and the School Medical and Maternity and Child Welfare Departments with a view to securing early diagnosis and treatment for the tuberculous child whilst such voluntary social services as the Child Welfare Association, Personal Service Society and the Roll of Honour Fund also render considerable help in this and other directions.

Arrangements also obtain whereby valuable assistance is available at the ante-natal clinics in the case of the tuberculous woman whose lesion is complicated by a co-existing pregnancy.

During the year, 2,718 reports were rendered by the Tuberculosis Officers in respect of school children, and as a result of co-operation with the School Medical Department, a number of non-pulmonary cases were referred for treatment at the special orthopaedic clinics.

Silicosis and Asbestosis Scheme (1931).

With the approval of the City Council, the Liverpool Tuberculosis Officers are authorised by the Secretary of State to make initial examinations of workmen engaged in occupations which expose them to the dangers of Silicosis or Asbestosis. During the year 29 workmen newly engaged in work of this description were examined, and reports were rendered to the Chief Medical Officer (Silicosis and Asbestosis Scheme).

Thirty-six radiographs were also taken in connection with this Scheme, for which a fee of £1 11s. 6d. per film is payable to the Liverpool Corporation.

A number of cases continue to be referred to the Tuberculosis Officer by the Divisional Medical Officer (Ministry of Health) and the Deputy-Commissioner of Medical Service (Ministry of Pensions).

Sanatoria.

TABLE X.

FAZAKERLEY SANATORIUM. Beds, 303.

NORMAL ALLOCATION OF BEDS.

	Observation.	Pulmonary Tuberculosis.		Non-pulmonary Tuberculosis.		TOTAL.
		"Sanatorium" Cases.	"Advanced" Cases.	Disease of Bones and Joints.	Other Conditions	
Adult Males	2	50	78	45	15	190
Adult Females ...	2	20	54	25	12	113
TOTAL ...	4	70	132	70	27	303

TABLE XI.

BROADGREEN SANATORIUM. Beds, 340.

NORMAL ALLOCATION OF BEDS.

	Observation.	Pulmonary Tuberculosis.		Non-pulmonary Tuberculosis.		TOTAL.
		"Sanatorium" Cases.	"Advanced" Cases.	Disease of Bones and Joints.	Other Conditions	
Adult Males	2	94	80	—	—	176
Adult Females ...	2	87	75	—	—	164
TOTAL ...	4	181	155	—	—	340

Dental Treatment.

A very considerable amount of dental work is carried out at the Sanatoria, the following operations having been performed during 1938:—

Extractions under anæsthesia	980
Fillings and scalings	90
Miscellaneous	658

Special Treatment.

Summary of other special forms of treatment carried out at the Sanatoria during the year :—

Artificial Pneumothorax (New inductions) ...	100
Artificial Pneumothorax Refills	7,318
Cases treated by Gold Injections	227
Thoracic Operations, including Phrenicectomy, Thoracoscopy, Bronchography, Thoracoplasty, etc.	26
Laryngological Operations	18

Walton Hospital.

In the tuberculosis section of this hospital 100 beds are available for male patients and 34 for female patients, the Consultant Tuberculosis Officer co-operating with the Medical Superintendent in their supervision. The latest medical and surgical methods continue to be employed, and during the year 141 cases received surgical attention whilst 229 cases were treated medically with gold salts, transpulmin, cadmium sulphide, calcium gluconate, etc. The Consultant Tuberculosis Officer (Dr. J. A. Rushworth) reports favourably on the continued good results obtained in certain pulmonary cases by absolute immobilization of the chest with plaster. This treatment is enhanced by the use of gold salts.

The patients readily co-operate in this treatment, and in none of the cases treated has there been any of the complications which one might anticipate with static measures.

The system of "gardening" introduced last year has proved a valuable asset, the patients benefiting physically and acquiring that contentment which is so helpful in the treatment of tuberculosis.

TABLE XII.

Alder Hey Hospital. Tuberculosis Beds, 100.

This table shows the cases dealt with during the period from 1st January, 1938, to 31st December, 1938 :—

	In Alder Hey, 31.12.37.	Subsequent Admissions.	Discharged.	Deaths.	Remaining, 31.12.38.
Pulmonary	4	44	37	9	2
Non-Pulmonary ..	60	117	75	28	74
Totals ...	64	161	112	37	76

The total accommodation in approved institutions made use of for patients suffering from tuberculosis was 1,076 beds, allocated in the following manner:—

TABLE XIII.

TOTAL NUMBER OF BEDS NORMALLY AVAILABLE FOR PATIENTS.

	Observation.	Pulmonary Tuberculosis.		Non-pulmonary Tuberculosis.		TOTAL.
		"Sanatorium" Cases.	"Advanced" Cases.	Disease of Bones and Joints.	Other Conditions	
Adult Males	4	131	280	27	15	457
Adult Females ...	3	104	208	26	16	357
Children under 15...	3	97	5	91	66	262
TOTAL ...	10	332	493	144	97	1,076

The extent of residential treatment afforded during the year is shown in Table XIV.

TABLE XIV.

		In Institutions on Jan. 1st. (1)	Admitted during the year. (2)	Discharged during the year. (3)	Died in the Institutions. (4)	In Institutions on Dec. 31st. (5)
Number of doubtfully tuberculous cases admitted for observation	Adult males	—	19	18	—	1
	Adult females	—	11	11	—	—
	Children	1	8	9	—	—
	Total	1	38	38	—	1
Number of patients suffering from pulmonary tuberculosis	Adult males	401	670	438	238	395
	Adult females	296	457	296	148	309
	Children	97	142	124	15	100
	Total	794	1,269	858	401	804
Number of patients suffering from non-pulmonary tuberculosis	Adult males	39	92	78	18	35
	Adult females	36	104	85	11	44
	Children	141	246	203	35	149
	Total	216	442	366	64	228
GRAND TOTALS		1,011	1,749	1,262	465	1,033

A return showing the immediate results of treatment of patients discharged from residential institutions during the year is given in Table XV.

TABLE XV.

Classification on Admission to the Institution.	Condition at time of Discharge.	DURATION OF RESIDENTIAL TREATMENT IN THE INSTITUTION. Under 3 months but over 28 days.			3-6 months.			6-12 months.			More than 12 months.			Totals.			Grand Total.
		M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	
Class T.B. minus.	Quiescent ...	13	8	5	15	8	7	5	10	8	9	5	38	42	31	58	131
	Not Quiescent ...	19	15	6	9	5	5	7	5	3	1	7	3	36	32	17	85
	Died in Institution	6	2	3	1	3	—	4	1	—	3	1	—	14	7	3	24
Class T.B. + Group 1	Quiescent ...	4	2	1	8	1	—	5	5	—	8	2	3	25	10	4	39
	Not Quiescent ...	—	1	1	9	3	—	2	7	—	1	2	3	12	13	4	29
	Died in Institution	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Class T.B. + Group 2	Quiescent ...	7	16	—	12	8	—	14	8	—	13	7	—	46	39	—	85
	Not Quiescent ...	44	22	2	43	24	—	27	15	—	32	18	2	146	79	4	229
	Died in Institution	1	—	—	2	2	—	1	1	—	—	1	—	4	4	—	8
Class T.B. + Group 3	Quiescent ...	1	—	—	1	—	—	—	—	—	2	—	—	4	—	—	4
	Not Quiescent ...	23	5	1	12	14	—	9	11	—	12	8	—	56	38	1	95
	Died in Institution	71	42	4	28	22	—	18	14	1	24	19	—	141	97	5	243
Totals (Pulmonary)...		189	113	23	140	90	12	92	77	12	105	70	49	526	350	96	972
Bones and Joints.	Quiescent ...	—	—	10	—	1	2	1	—	6	6	1	23	7	2	41	50
	Not Quiescent ...	10	8	6	1	1	—	—	2	—	2	3	3	13	14	9	36
	Died in Institution	3	2	—	1	—	—	—	1	—	4	2	2	8	5	2	15
Abdominal.	Quiescent ...	—	—	4	—	3	9	2	—	6	2	—	13	4	3	32	39
	Not Quiescent ...	—	4	4	—	—	3	—	2	1	—	1	1	—	7	9	16
	Died in Institution	2	1	2	1	—	—	—	—	—	1	—	—	4	1	2	7
Other Organs.	Quiescent ...	5	3	—	1	—	—	1	—	—	—	—	—	7	3	—	10
	Not Quiescent ...	2	2	1	—	1	—	—	2	—	1	—	—	3	5	1	9
	Died in Institution	—	—	1	—	—	—	—	—	—	2	—	—	2	—	1	3
Peripheral Glands.	Quiescent ...	—	2	10	—	—	3	1	3	8	—	—	8	1	5	29	35
	Not Quiescent ...	2	1	4	—	2	—	—	1	—	1	—	—	3	4	4	11
	Died in Institution	1	—	1	—	—	—	—	1	—	—	—	—	1	1	1	3
Totals (Non-Pulmonary)		25	23	43	4	8	17	5	12	21	19	7	50	53	50	131	234

TABLE XV.—*continued.*

		Pulmonary Tuberculosis						Non-Pulm. Tuberculosis						Totals			Grand Total.
		Under 4 wks.			Over 4 wks.			Under 4 wks.			Over 4 wks.						
		M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	
Observation for purpose of Diagnosis.	Tuberculous ...	1	1	—	1	—	2	—	—	—	—	—	—	2	1	2	5
	Non-Tuberculous	9	9	—	4	—	2	1	—	2	1	—	2	15	9	6	30
	Doubtful... ...	1	1	—	—	—	1	—	—	—	—	—	—	1	1	1	3
		11	11	—	5	—	5	1	—	2	1	—	2	18	11	9	38

Extent of Residential Treatment provided during the year 1938 in Appropriated Institutions not yet approved by the Ministry of Health and Public Assistance Hospitals.

		In Institution on Jan. 1st.	Admitted during the year.	Discharged during the year.	Died in the Institution.	In Institution on Dec. 31st.
Number of patients suffering from Pulmonary Tuberculosis admitted for treatment.	Adult Males.	4	92	81	10	5
	Adult Females	3	63	51	13	2
	Children*	—	—	—	—	—
	Total	7	155	132	23	7
Number of patients suffering from Non-Pulmonary Tuberculosis admitted for treatment	Adult Males	—	20	16	3	1
	Adult Females	1	20	17	2	2
	Children*	—	—	—	—	—
	Total	1	40	33	5	3
Grand Total		8	195	165	28	10

*Under 15 years of Age.

CLEAVER SANATORIUM. Beds, 200.

The scope of this sanatorium has been greatly increased during the past year by the installation of a mobile X-ray unit which will afford greater precision in diagnosis and increased range of treatment.

The small bacteriological laboratory has also proved most useful, facilitating clinical investigation and saving much valuable time in the examination of specimens.

A more severe type of both pulmonary and non-pulmonary tuberculosis is being received and practically all cases of these diseases in children are now treated here, thus easing pressure on the other city sanatoria.

A new Rest Hall has also been opened which is proving of great value in the treatment of the more convalescent cases.

	In Institution on Jan. 1st.	Admitted during the year.	Discharged during the year.	Died in the Institution	In Institution on Dec. 31st.
Number of patients suffering from Pulmonary Tuberculosis admitted for treatment. Children	84	90	79	1	94
Number of patients suffering from Non-Pulmonary Tuberculosis admitted for treatment. Children	58	52	53	—	57
Grand Total	142	142	132	1	151

After-Care.

The after-care arrangements in force are as follows:—

(1) The periodic examination by the Tuberculosis Officers of all cases under public medical treatment.

(2) Visits paid to patients in their homes by the Tuberculosis Visitors attached to the Tuberculosis Clinics.

(3) Visits paid to patients in their homes by the nurses of the Queen Victoria District Nursing Association and certain voluntary organisations.

(4) The reference of cases presenting peculiar difficulties to voluntary associations, such as the Child Welfare Association, the Personal Service Society, etc.

(5) When vacancies occur, suitable patients are employed in the continuation treatment sections at the sanatoria.

During the year Tuberculosis Visitors attached to the clinics and Sanitary Inspectors made 17,801 such visits. All these visits are the subject of reports to the Tuberculosis Officer concerned. The domiciliary visits of the nurses of the Queen Victoria District Nursing Association, to the number of 8,202, have already been referred to.

Non-Pulmonary Tuberculosis.

Table XVI gives an analysis of the 101 cases in which death was due to non-pulmonary tuberculosis.

TABLE XVI.

NON-PULMONARY TUBERCULOSIS DEATHS.

1938.	Tuberculous Meningitis.	Bones and Joints.	Abdominal.	Peripheral glands.	Other Organs.	Totals.
Males.....	6	12	5	—	6	29
Females	6	4	4	—	6	20
Children	35	2	4	—	11	52
Totals.....	47	18	13	—	23	101

Notification and Deaths.

During the year 63 persons within the city died from tuberculosis without notification having been effected prior to death. The result of enquiry into the reasons for such failure to notify are summarised in Table XVII.

TABLE XVII.

Disease.	Reasons for Non-notification of Persons who died within the City.							Inward Transferable deaths referred by the Registrar General.		Total Deaths (All Forms)
	No. of Persons who died within the City.	No. of Cases not notified before death.	Diagnosis made at a Post-mortem Examination. Includes Coroner's Cases.	Diagnosis delayed owing to Clinical difficulties.	Doctor thought case had been notified by another Practitioner.	Notification forgotten.	Patient died before notification could be effected.	Notified to Liverpool before death.	Not notified.*	
Pulmonary Tuberculosis ...	637	34 5·3%	11 1·7%	9 1·4%	7 1·1%	4 ·6%	3 ·5%	28	5	670
Non-Pulmonary Tuberculosis	101	29 29%	6 6%	13 13%	1 1%	7 7%	2 2%	—	—	101

* A number of these cases may have been notified to the Authorities of the Areas in which death took place.

Every endeavour is made to encourage early notification of cases of tuberculosis, and Table XVIII gives an analysis of the periods within which notification has been effected.

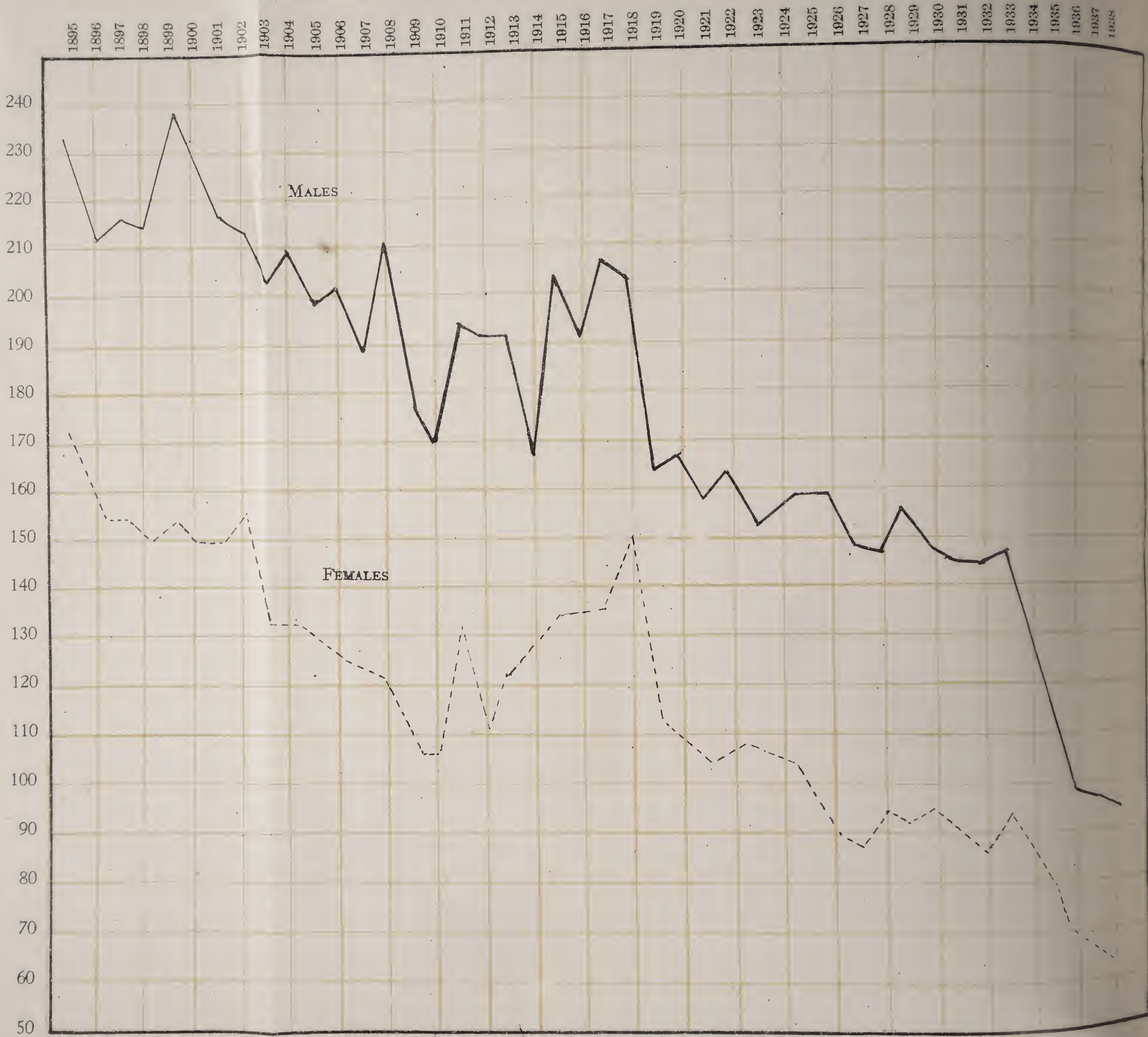
TABLE XVIII.

Year.	Total Deaths.				Notifications and other references Prior to Death within the Periods indicated in each Column. (Figures refer to deaths within the City only.)						Total Deaths (All Forms)
	Inward Transferable deaths referred by the Registrar General.		Deaths within the City.		Within 2 weeks of death.	Within 2 to 4 weeks of death.	Within 1 to 3 months of death.	Within 3 to 6 months of death.	Within 6 to 12 months of death.	Over 12 months prior to death.	
	Not notified before death.*	Notified before death.	Not notified before death.	Notified before death.							
1933	24	36	91	1,006	127	55	109	95	126	494	1,157
1934	18	25	81	867	99	59	127	92	110	380	991
1935	13	17	70	842	92	33	95	97	103	422	942
1936	23	17	87	707	87	34	89	81	74	342	834
1937	14	18	57	705	98	39	89	65	85	329	794
1938	5	28	63	675	62	41	109	79	65	319	771

* A number of these cases may have been notified to the Authorities of the Areas in which death took place.

CITY OF LIVERPOOL

PULMONARY TUBERCULOSIS DEATH RATES PER 100,000 POPULATION.



Deaths from Tuberculosis.

The number of deaths from pulmonary tuberculosis in Liverpool from 1871 to 1938, together with the number of new cases notified and the death rates which prevailed in England and Wales are given in Table XIX where case rates for Liverpool are also shown.

TABLE XIX.

DEATHS FROM PULMONARY TUBERCULOSIS.

Years.	Cases notified.		Case rate per 1,000 population.	Number of deaths.	Death rate per 1,000 Liverpool.	Death rate per 1,000 England and Wales.
1871 to 1880 ...	Average yearly figures	Nil	Nil	1,506	2·90	2·13
1881 to 1890 ...		Nil	Nil	1,260	2·35	1·73
1891 to 1900 ...		Nil	Nil	1,171	1·92	1·39
1901 to 1910 ...		2,216*	3·07	1,233	1·68	1·16
1911 to 1920 ...		2,812*	3·60	1,214	1·55	1·08
1921 to 1930 ...		2,356	2·82	1,042	1·23	0·81
1931.....	2,358		2·75	989	1·15	0·74
1932.....	2,005		2·33	969	1·12	0·69
1933.....	2,279		2·63	1,009	1·16	0·69
1934.....	1,903		2·20	867	1·00	0·63
1935.....	1,697		1·96	812	0·94	0·60
1936.....	1,645		1·90	713	0·82	0·58
1937.....	1,555		1·79	684	0·79	0·58
1938.....	1,378		1·59	666	0·77	0·53

* Voluntary notification from 1901 to 1911.

In Table XX a similar return is made in respect of deaths from non-pulmonary tuberculosis, and case rates.

TABLE XX.

DEATHS FROM NON-PULMONARY TUBERCULOSIS.

Years.	Cases notified.		Case rate per 1,000 population.	Number of deaths.	Death rate per 1,000 Liverpool.	Death rate per 1,000 England and Wales.
1871 to 1880 ...	Average yearly figures	Nil	Nil	481	0·90	0·75
1881 to 1890 ...		Nil	Nil	527	0·98	0·70
1891 to 1900 ...		Nil	Nil	500	0·82	0·63
1901 to 1910 ...		100*	0·14	416	0·56	0·50
1911 to 1920 ...		716*	0·92	349	0·45	0·35
1921 to 1930 ...		640	0·77	234	0·27	0·20
1931.....	719		0·84	164	0·19	0·15
1932.....	672		0·77	170	0·19	0·15
1933.....	654		0·75	148	0·17	0·13
1934.....	585		0·67	129	0·15	0·13
1935.....	502		0·58	123	0·14	0·11
1936.....	445		0·51	126	0·14	0·11
1937.....	388		0·45	112	0·13	0·11
1938.....	386		0·45	103	0·12	0·10

* Voluntary notification from 1901 to 1911.

The age and sex distribution of deaths from both pulmonary and non-pulmonary tuberculosis are given in Table XXI.

TABLE XXI.

AGE PERIODS OF DEATH FROM TUBERCULOSIS DURING 1938.

Age Periods.	Pulmonary.		Non-Pulmonary.	
	Males.	Females.	Males.	Females.
0—	2	—	6	4
1—	3	1	18	17
5—	1	—	3	5
10—	2	8	2	1
15—	16	38	7	12
20—	43	64	6	1
25—	73	83	6	1
35—	65	40	3	—
45—	74	25	3	2
55—	76	13	1	—
65—	27	12	1	4
Totals ...	382	284	56	47

The distribution of deaths from pulmonary tuberculosis according to the districts in which the patients resided and according to the quarter of the year during which death took place is given in Table XXII.

TABLE XXII.

DEATHS FROM PULMONARY TUBERCULOSIS IN DISTRICTS.

DISTRICTS.	Quarters.								Year 1938 Totals.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.&F.
Exchange	9	6	12	6	6	6	3	4	30	22	52
Abercromby	6	1	2	—	1	6	2	1	11	8	19
St. Peters	9	4	11	6	6	2	7	3	33	15	48
Toxteth Park	9	7	16	6	5	4	8	1	38	18	56
Edge Hill & Sefton Park ...	11	12	9	8	14	9	5	12	39	41	80
Wavertree	7	8	14	8	7	2	6	3	34	21	55
Fazakerley	14	14	8	11	11	6	6	8	39	39	78
Walton & Walton Park ...	15	11	16	4	5	9	8	7	44	31	75
Kirkdale	12	5	5	4	7	10	10	4	34	23	57
Netherfield	9	4	9	7	10	8	9	10	37	29	66
Everton...	3	2	1	3	1	—	7	1	12	6	18
West Derby...	10	9	10	9	5	9	6	4	31	31	62
City	114	83	113	72	78	71	77	58	382	284	666
	197 29·6%		185 27·7%		149 22·4%		135 20·3%		57·4 %	42·6 %	

N.B.—Deaths in public institutions are transferred to the districts from which the patients came.

A similar return in respect of deaths from non-pulmonary tuberculosis is given in Table XXIII.

TABLE XXIII.

DEATHS FROM NON-PULMONARY TUBERCULOSIS IN DISTRICTS.

DISTRICTS.	Tuberculous Peritonitis.		Tuberculous Meningitis.		Other forms of Tuberculosis		Year 1938. Totals		
	M.	F.	M.	F.	M.	F.	M.	F.	M.&F.
Exchange	—	—	6	3	2	1	8	4	12
Abercromby	—	1	1	—	—	1	1	2	3
St. Peters	—	—	2	3	4	—	6	3	9
Toxteth Park	2	—	1	1	1	2	4	3	7
Edge Hill & Sefton Park	—	2	2	3	4	3	6	8	14
Wavertree	1	—	3	3	6	1	10	4	14
Fazakerley	—	1	2	1	1	4	3	6	9
Walton & Walton Park	—	1	2	3	1	1	3	5	8
Kirkdale	—	1	—	1	4	1	4	3	7
Netherfield	—	—	2	3	3	2	5	5	10
Everton...	—	—	1	—	—	1	1	1	2
West Derby	2	—	3	2	—	1	5	3	8
City	5	6	25	23	26	18	56	47	103
	11		48		44				

N.B.—Deaths in public institutions are transferred to the districts from which the patients came.

VENEREAL DISEASES

VENEREAL DISEASES.

Venereal diseases are a danger to the community owing to the severity of the complications and after-effects. As a result of the Report of the Royal Commission, the Public Health (Venereal Diseases) Regulations were passed in 1916, and came into force in Liverpool in 1917. The object of the regulations was to ensure that the treatment of affected persons should be carried out so as to effect cure and to prevent the further spread of infection. The schemes prepared under these regulations have now had an extensive trial and very good results may be claimed for them.

All cases of venereal diseases requiring in-patient treatment are now concentrated in the special wards at Mill Road Infirmary. Pregnant women suffering from these diseases are confined there and their own health and that of their new born infants is cared for under expert hands. Periodic examinations of the children born and apparently free from disease are arranged. Infected parents are encouraged to attend the clinics until cure is accomplished. Further pregnancies are supervised and prophylactic treatment for congenital syphilis is given throughout.

It is becoming increasingly realised that the infected unit is not the individual but the family and thus whole families are examined, and, if need be, treated as the result of one diagnosed case. The maternity wards in particular of the various hospitals have referred numerous cases to the clinics for treatment, while the ante-natal centres throughout the city have sent many patients for diagnosis and treatment. It is only by a greater development of this co-operation between the health services that the large numbers of women and their families who would otherwise not be treated for this hidden scourge can come under proper treatment.

The readiness of persons infected or suspicious of infection to attend the clinics may be gauged by (1) the number of cases classed as non-venereal, e.g., in Liverpool the proportion of non-venereal cases during the years 1934, 1935, 1936, 1937 and 1938 has been 19·6 per cent., 23·14 per cent., 23·18 per cent., 23·43 per cent., and 26·53 per cent., respectively; (2) the ratio of male patients suffering from gonorrhœa of less than one year's duration to those suffering from

syphilis of less than one year's duration; in the services where concealment of disease is at a minimum the ratio is 7 to 1: in Liverpool the ratio for the year was 9 to 1 [G.1323: S_1 S_2 S_3 149]. The inference to be drawn appears to be that the fear of venereal disease drives the patient to the clinic for advice and that the clinics are being made use of as diagnostic centres to an increasing degree.

The defect in the efficiency of this service to the community continues to be the defaulting patient. Considerable numbers of patients, knowing well the condition from which they are suffering, absent themselves from treatment before non-infectivity to others or safety for themselves is assured. These numbered 18·6 per cent. of the total number treated. The defaulting patient is one of three types:

(1) The lazy and irresponsible person who requires some form of compulsion to cause him to continue attendance.

(2) The cocksure type who fancies that he can tell when he is cured and that doctors are humbugs who do not know what they are talking about.

(3) The sensitive type who finds the visit to the clinic a daily degradation and who defaults to save his self-respect at the expense of his health.

The two latter types respect efficiency and discipline in a clinic and when each visit brings them palpably nearer cure the tendency to default grows less though both may refrain from reporting for final tests of cure because of their psychological make up. In these diseases, unfortunately, there are long periods when the patient is entirely free from obvious symptoms in spite of the continued presence and internal activity of the disease. It is an unfortunate fact that of 47 patients suffering from locomotor ataxy who came for treatment to the clinic at the Stanley Hospital between the years 1919 and 1933, 44 had not received previous treatment. This would appear to give conclusive evidence that the earlier symptoms of the disease were of a trivial and ephemeral nature.

Chancroid is seen commonly at the Seamen's Dispensary (141 cases during the year) but rarely at Mill Road Infirmary Clinic (4 cases during the year) and at the Royal Infirmary (4 cases during the year). At the Seamen's Dispensary, in fact, the cases of chancroid outnumbered

the cases of primary syphilis. This fact is related to the geographical distribution of venereal disease. Chancroid is mainly a disease found in tropical areas such as the Amazon region of South America, and is therefore more prevalent among seafarers than among residents of the city.

The treatment for syphilis in the first year of infection which has been the routine at the Seamen's Dispensary since 1924 is now practised at all centres in the city. Originally 1·05 grams of 914 were given weekly, but since 1928 0·75 grams of 914 have been given. The bismuth dosage has remained the same. The course lasts for six weeks, as shown below:—

Day 1	Cent. Gms. NAB 30	Cent. Gms.Bi 20
4	45	20
8	30	20
11	45	20
15	30	20
18	45	20
22	30	20
25	45	20
29	30	20
32	45	20
36	30	20
39	45	20

The NAB is dissolved in 15 c.c. of 10% solution of Sodium Thiosulphate.

An interval is given for three months and on return the blood is taken for a Wassermann test. All such cases have shown a negative Wassermann at this stage. A further course of six weeks' duration exactly the same as above is given, and a six months' rest from treatment is enjoined. A Wasserman test is taken and the course repeated. Wasserman tests of blood and spinal fluid are continued over a period of five years, and no case has relapsed either clinically or serologically in a period of fifteen years.

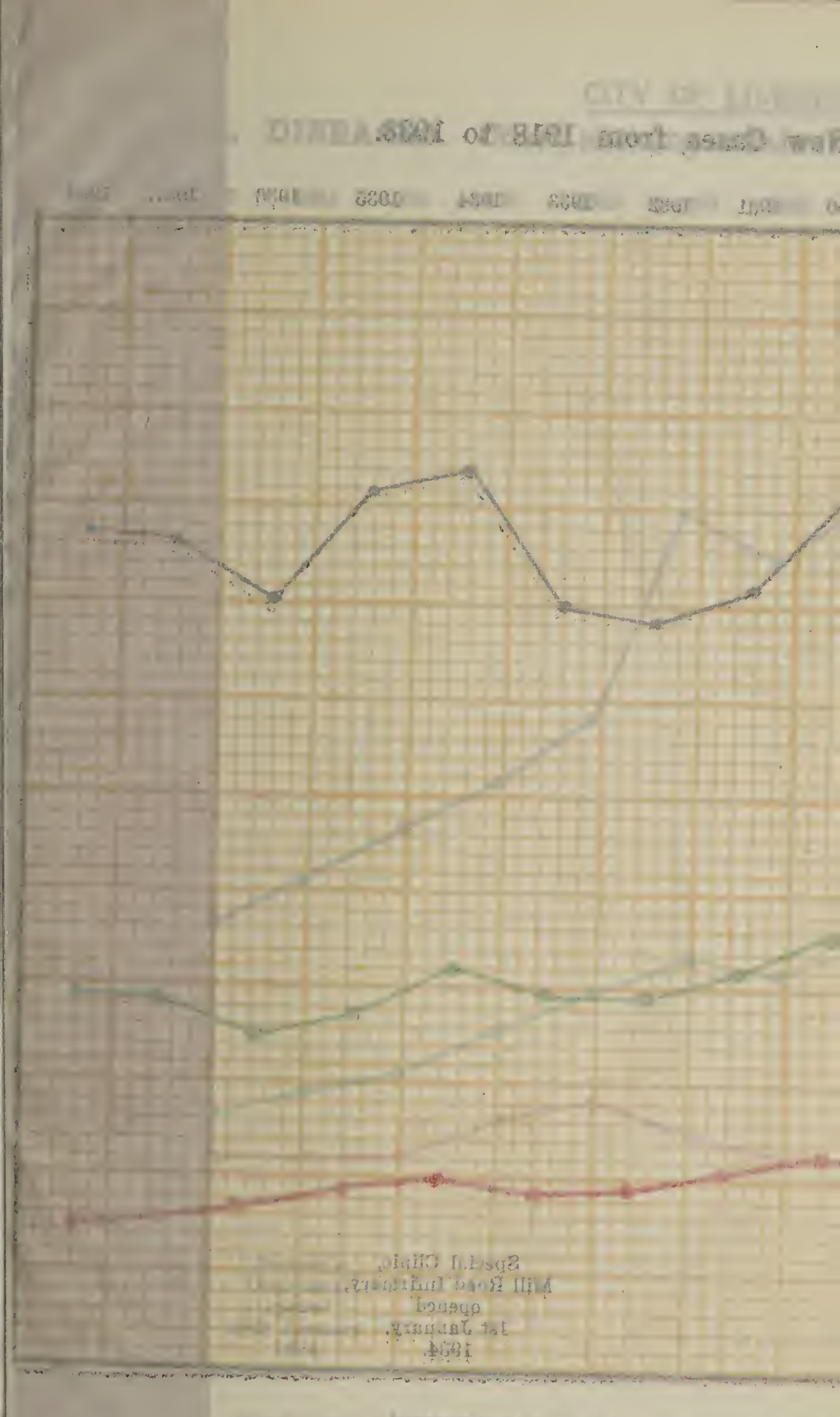
The Clinics operated by the Corporation during 1938 were:—

Seamen's Dispensary—Males only.

Mill Road Infirmary (Special Clinic)—Males and Females

Royal Infirmary—Males and Females.

Edge Lane Hospital—Females only.



CITY OF LIVERPOOL.

VENEREAL DISEASES. Chart shewing number of **New Cases from 1918 to 1938.**

NOTE.—The total new cases treated include some cases which subsequently proved to be non-venereal.

The following table summarises the work of the Clinics for the year 1938:—

	Seamen's Dispensary. Males only.	†Royal Infirmary.		†Mill Road Infirmary Spl. Clinic.		†Edge Lane Medical Home. Females only.	TOTAL. Males and Females.
		Males	Females	Males	Females		
New cases ...	2,294	746	224	595	472	98	4,429
Old and new patients							
Total attendances	37,024	32,205	7,381	12,325	16,052	—	104,987
In-patient days	—	3	—	8,419	8,990	7,279	24,691

† Beds for In-patients are reserved at these Institutions.

There was an increase in the number of new patients (4,429 in 1938 compared with 4,352 in 1937), but a reduction in in-patient days of treatment (24,691 and 27,719 respectively), and in the number of attendances (104,987 and 134,028 in 1938 and 1937).

The decrease in attendances of 25 per cent. in spite of the increased number of fresh cases is the most striking feature in this year's statistical report. This reduction has been accomplished by the oral administration of the sulphanilamide group of drugs, especially of M. and B. 693. This preparation has proved efficacious in the treatment of all varieties of venereal disease except syphilis. Members of the staff have been first in the field in publishing in the medical press the effects of this drug in the treatment of gonorrhœa, millet seed urethritis, climatic bubo and granuloma venereum. The entire scheme of treatment for gonorrhœa in both sexes has been recast, and while the duration of treatment has been reduced very considerably the tests for cure have become more stringent by a more liberal use of cultural methods.

The Seamen's Dispensary, Mill Road Special Clinic and the Royal Infirmary are open all day for treatment of these diseases in the male, while Mill Road Special Clinic is also open afternoon and evening for females; at the Royal Infirmary treatment for females is provided each day at hours convenient to the greatest number of patients.

The accompanying graph shows the total number of new cases of the two principal venereal diseases year by year

Laboratory services for the diagnosis and control of treatment are provided at the City Laboratories, the Thompson Yates Laboratory of the University and the Mill Road Infirmary Laboratory.

At the City Laboratory, Wasserman reaction tests are done three times weekly, rapid diagnosis obviating delay in treatment.

Seamen's Dispensary.

The primary function of this clinic is to provide free and expert treatment for seamen of all nations, to act in an advisory capacity to medical officers of ships, ships' captains, and foreign consulates, and to provide a laboratory service for rapid diagnosis. Although the majority of the patients are seamen, other classes of occupation are also dealt with.

The staff consists of three part-time medical officers and four highly trained orderlies.

Excellent results have been recorded both in the treatment of gonorrhœa and of syphilis, and special schemes of treatment particularly suited to the needs of the seafaring population have proved efficient.

During the year under review, 3,961 cases have been advised and treated, of whom 2,605 reported for the first time. Of these, 1,088 were found not to be suffering from venereal disease.

The classification of the cases dealt with at the Seamen's Dispensary for the first time during the year, and also for the five previous years, was as under:—

	1933	1934	1935	1936	1937	1938
Syphilis	304	354	380	293	344	337
Soft chancre ...	136	128	131	115	135	160
Gonorrhœa	918	1,019	968	987	1,112	1,020
Non-Venereal Cases...	586	698	780	840	986	1,088
	1,944	2,199	2,259	2,235	2,577	2,605

An analysis of the early cases of venereal disease cases met with at the clinic gives the following result.

Syphilis	9·5%
Soft chancre	13·0%
Gonorrhœa	77·5%

Services rendered at the Venereal Diseases Treatment Centres during the year 1938.

	Syphilis.		Soft Chancre.		Gonorrhœa.		Conditions other than Venereal.		Totals.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Totals.
1. Number of cases on 1st January under treatment or observation	906	425	37	...	869	238	20	4	1,832	667	2,499
2. Number of cases removed from the register during any previous year which returned during the year under report for treatment or observation of the same infection	191	33	19	...	180	21	...	...	390	54	444
3. Number of cases dealt with for the first time during the year under report (exclusive of cases under Item 4) suffering from :—											
Syphilis, primary	91	4	...	...	...	...	...	...	91	4	95
,, secondary	36	21	...	...	...	...	...	...	36	21	57
,, latent in 1st year of infection	20	9	...	...	...	...	...	...	20	9	29
,, all later stages	205	111	...	...	...	...	...	...	205	111	316
,, congenital	15	31	...	...	...	...	...	...	15	31	46
Soft Chancre	...	...	149	...	...	...	...	...	149	...	149
Gonorrhœa, 1st year of infection ...	...	...	...	...	1,363	128	...	...	1,363	128	1,491
,, later	...	...	...	...	83	13	...	...	83	13	96
Conditions other than venereal ...	...	...	...	...	...	...	1,673	379	1,673	379	2,052
4. Number of cases dealt with for the first time during the year under report known to have received treatment for the same infection, or to have been under observation, at other Centres	174	6	21	...	236	14	...	...	431	20	451
	1,638	640	226	...	2,731	414	1,693	383	6,288	1,437	7,725
5. Number of cases discharged after completion of treatment and final tests of cure or after diagnosis as non-venereal...	63	22	59	...	773	65	1,637	377	2,532	464	2,996
6. Number of cases which ceased to attend before completion of treatment, and were, on first attendance, suffering from :—											
Syphilis, primary	46	2	...	...	...	...	...	...	46	2	48
,, secondary	28	9	...	...	...	...	...	...	28	9	37
,, latent in 1st year of infection	8	7	...	...	...	...	...	...	8	7	15
,, all later stages	142	61	...	...	...	...	...	...	142	61	203
,, congenital	21	26	...	...	...	...	...	...	21	26	47
Soft Chancre	...	...	20	...	...	...	...	...	20	...	20
Gonorrhœa, 1st year of infection ...	...	...	...	...	418	47	...	...	418	47	465
,, later	...	...	...	...	33	6	...	...	33	6	39
7. Number of cases which ceased to attend after completion of treatment but before final tests of cure	19	...	25	...	138	2	...	...	182	2	184
8. Number of cases transferred to other Centres or to institutions, or to care of private practitioners	419	40	86	...	537	22	...	...	1,042	62	1,104
9. Number of cases remaining under treatment or observation on 31st December...	892	473	36	...	832	272	56	6	1,816	751	2,567
	1,638	640	226	...	2,731	414	1,693	383	6,288	1,437	7,725
10. Number of cases in the following stages of syphilis **included in Item 6** which failed to complete one course of treatment :—											
Syphilis, primary	14	...	...	...	...	...	...	...	14	...	14
,, secondary	10	4	...	...	...		...	...	10	4	14
,, latent in 1st year of infection	3	3	...	...	...	...	...	...	3	3	6
,, all later stages	42	19	...	...	...	...	...	...	42	19	61
,, congenital	5	8	...	...	...	...	...	...	5	8	13
11. Number of attendances :											
(*a*) for individual attention of the medical officer(s)	14,305	10,020	1,137	...	24,640	4,135	3,481	792	43,563	14,947	58,510
(*b*) for intermediate treatment, e.g., irrigation, dressing	490	45	1,069	...	36,422	8,441	10	...	37,991	8,486	46,477
TOTAL ATTENDANCES	14,795	10,065	2,206	...	61,062	12,576	3,491	792	81,554	23,433	104,987
12. In-patients :—											
(*a*) Total number of persons admitted for treatment during the year ...	200	162	14	...	99	100	27	83	340	345	685
(*b*) Aggregate number of "in-patient days" of treatment given ...	5,178	4,773	378	...	2,551	2,825	315	1,392	8,423	8,990	17,412

	Under 1 year.		1 and under 5 years.		5 and under 15 years.		15 years and over.		Totals.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
13. Number of cases of congenital syphilis in Item 3 above classified according to age periods	1	1	...	1	4	6	10	23	15	31

	Arsenical.			
	Approved Arsenobenzene Compounds.	Others.	Mercury.	Bismuth.
14. Total number of injections given (out-patients and in-patients)	8,630	2,920	1,250	12,060

	Microscopical.		Cultural for Gonorrhœa.	Serum.		Cerebro-spinal fluid.	Others for diagnosis of Venereal Disease.
	for Syphilis.	for Gonorrhœa.		for Syphilis.	for Gonorrhœa.		
15. **Pathological Work** :—							
(*a*) Number of **specimens** examined **at**, and by the medical officer of, the Treatment centre	418	3,484	...	..	...	...	...
(*b*) Number of **specimens** from patients attending at the Treatment Centre sent for examination to an **approved** laboratory	248	8,416	150	10,544	576	275	...

Deaths from Venereal Disease.

Years.	Syphilis.					Locomotor Ataxy.					General Paralysis of Insane.					Total Venereal Disease.				
	At Ages—Years.																			
	Under 1	1–	40–	All Ages.		Under 1	1–	40–	All Ages.		Under 1	1–	40–	All Ages.		Under 1	1–	40–	All Ages.	
1915	43	9	10	62		...	1	10	11		...	10	25	35		43	20	45	108	
1916	36	5	1	42		...	1	13	14		...	12	23	35		36	18	37	91	
1917	25	12	3	40	259	...	3	16	19	80	...	27	43	70	272	25	42	62	129	611
1918	37	17	13	67		...	1	19	20		...	34	42	76		37	52	74	163	
1919	38	6	4	48		...	4	12	16		...	22	34	56		38	32	50	120	
1920	48	8	5	61		...	3	10	13		...	18	24	42		48	29	39	116	
1921	41	7	9	57		...	1	16	17		...	18	35	53		41	26	62	127	
1922	31	7	10	48	255	...	2	16	18	81	...	27	29	56	244	31	36	55	122	580
1923	39	5	2	46		...	2	15	17		...	18	29	47		39	25	46	110	
1924	29	8	6	43		...	1	15	16		...	15	31	46		29	24	52	105	
1925	24	3	8	35		...	...	18	18		...	12	20	32		24	15	46	85	
1926	25	...	13	38		...	3	14	17		...	4	25	29		25	7	52	84	
1927	14	5	16	35	169	...	3	11	14	78	...	8	32	40	163	14	16	59	89	410
1928	10	6	12	28		...	1	12	13		...	7	29	36		10	14	53	77	
1929	10	3	20	33		...	1	15	16		...	6	20	26		10	10	55	75	
1930	10	3	28	41		...	2	9	11		...	7	18	25		10	12	55	77	
1931	5	9	26	40		...	1	7	8		...	3	16	19		5	13	49	67	
1932	6	3	21	30	189	...	1	9	10	51	...	8	24	32	131	6	12	54	72	371
1933	4	11	26	41		...	...	20	20		...	7	21	28		4	18	67	89	
1934	8	4	25	37		...	...	2	2		...	6	21	27		8	10	48	66	
1935	7	4	36	47		...	...	10	10		...	6	18	24		7	10	64	81	
1936	4	6	41	51		...	...	14	14		...	4	19	23		4	10	74	88	
1937	4	5	39	48		...	1	10	11		...	3	20	23		4	9	69	82	
1938	8	6	44	58		...	...	13	13		...	1	15	16		8	7	72	87	

The increase in the deaths under the heading Syphilis is probably due to improved diagnosis in cardio-vascular cases.

Venereal Diseases—Time Table of Treatment Centres.

		New Patients. Males.	New Patients. Females.	Continuation Treatment. Males.	Continuation Treatment. Females.
MONDAY	Seamen's Dispensary ...	9.30 a.m. to 1 p.m. and 3 to 8 p.m.	...	9.30 a.m. to 1 p.m. and 3 to 8 p.m.	...
	Royal Infirmary ...	10 a.m. to 1 p.m. 5.30 to 6.30 p.m.	2 p.m.	9.30 a.m. to 8 p.m.	2 p.m.
	Mill Road Infirmary ...	10 a.m. to 1 p.m. and 6 to 8 p.m.	2 to 4 p.m. 6 to 8 p.m.	10 a.m. to 1 p.m. and 5.30 to 8 p.m.	2 to 4 p.m. 6 to 8 p.m.
TUESDAY	Seamen's Dispensary ...	9.30 a.m. to 1 p.m. and 3 to 8 p.m.	...	9.30 a.m. to 1 p.m. and 3 to 8 p.m.	...
	Royal Infirmary ...	10 a.m. to 1 p.m.	5.30 to 6.30 p.m.	9.30 a.m. to 4.30 p.m.	2 p.m.
	Mill Road Infirmary ...	10 a.m. to 1 p.m. and 6 to 8 p.m.	2 to 4 p.m., 6 to 8 p m.	10 a.m. to 1 p.m. and 5.30 to 8 p.m.	2 to 4 p.m., 6 to 8 p.m.
WEDNESDAY	Seamen's Dispensary ...	9.30 a.m. to 1 p.m. and 3 to 8 p.m.	...	9.30 a.m. to 1 p.m. and 3 to 8 p.m.	...
	Royal Infirmary ...	10 a.m. to 1 p.m. 5.30 to 6.30 p.m.	2 p.m.	9.30 a.m. to 8 p.m.	2 p.m.
	Mill Road Infirmary ...	10 a.m. to 1 p.m. and 6 to 8 p.m.	2 to 4 p.m. 6 to 8 p.m.	10 a.m. to 1 p.m. and 5.30 to 8 p m.	2 to 4 p.m. 6 to 8 p.m.
THURSDAY	Seamen's Dispensary ...	9.30 a.m. to 1 p.m. and 3 to 8 p.m.	...	9.30 a.m. to 1 p.m. and 3 to 8 p.m.	...
	Royal Infirmary ...	5 to 6 p.m.	12 noon to 1 p.m.	9.30 to 11.30 a.m. and 2 to 8 p.m.	2 p.m.
	Mill Road Infirmary ...	10 a.m. to 1 p.m. and 6 to 8 p.m.	2 to 4 p.m. 6 to 8 p.m.	10 a.m. to 1 p.m. and 5.30 to 8 p.m.	2 to 4 p.m. 6 to 8 p.m.
FRIDAY	Seamen's Dispensary ...	9.30 a.m. to 1 p.m. and 3 to 8 p.m.	...	9.30 a.m. to 1 p.m. and 3 to 8 p.m.	...
	Royal Infirmary ...	10 a.m. to 1 p.m. and 7 to 8 p.m.	2 p.m.	9.30 a.m. to 8 p.m.	2 p.m.
	Mill Road Infirmary ...	10 a.m. to 1 p.m. and 6 to 8 p.m.	2 to 4 p.m. 6 to 8 p.m.	10 a.m. to 1 p.m. and 5.30 to 8 p.m.	2 to 4 p.m. 6 to 8 p.m.
SATURDAY	Seamen's Dispensary ...	9.30 a.m. to 1 p.m.	...	9.30 a.m. to 1 p.m.	...
	Royal Infirmary ...	By arrangement	...	9.30 a.m. to 1 p.m.	By arrangement.
	Mill Road Infirmary ...	10 a.m. to 1 p.m.	10 a.m. to 1 p.m.	10 a.m. to 1 p.m.	10 a.m. to 1 p.m.

Clinics in other Merseyside Areas.

	Males	Females
BIRKENHEAD General Hospital	Mon., Wed., and Fri., 5-30 p.m.	Tues., 5-30 p.m. Fri., 2 p.m.
BOOTLE General Hospital	Mon., 5 p.m. Tues., Wed., and Fri., 6-0 p.m.	Wed., 12 noon. Thurs., 5 p.m.
WALLASEY Mill Lane Clinic	Wed., 7-45 to 8-30 p.m.	Mon., 5-30 to 6-30 p.m.

HOSPITAL AND HEALTH SERVICES.

INFECTIOUS HOSPITALS and SANATORIA.

During the year 1938 the City Infectious Hospitals and Sanatoria were in full commission.

The hospital accommodation for infectious cases was as follows:—

City Hospital North	187 beds
,, South	101 ,,
,, East	174 ,,
,, Fazakerley	352 ,,
,, Fazakerley Annexe	118 ,,
,, Sparrow Hall	160 ,,
Fazakerley Sanatorium	309 ,,
Broadgreen Sanatorium	353 ,,
Cleaver Sanatorium	200 ,,
	1954

At the beginning of the year the City Infectious Hospitals were well occupied, there being 464 cases of diphtheria in hospital, which number had increased to 573 by February. This figure gradually decreased to 282 in July, slightly increasing to 331 by October, with an upward tendency towards the close of the year. At the end of December the figure was 455.

The following indicates the position of scarlet fever cases and their removal to hospital throughout the year. At the beginning of the year 123 beds were occupied with scarlet fever cases. This figure gradually fell to 83 in June, and was maintained with slight variation until November, when there was a sharp increase. At the end of December the number of cases in hospital had increased to 132.

At the beginning of the year there were 159 cases of measles under treatment in City Infectious Hospitals. This figure gradually decreased

to 50 in April and by the end of June there were no cases under treatment. No further cases were admitted up to the end of the year.

During the year a number of measles cases were treated in their own homes and received daily visits from the measles nurses on the Corporation staff. Where the home conditions were unsatisfactory or at the request of the medical practitioners concerned, the patients were removed to hospital.

There were 62 whooping cough patients in hospital at the beginning of the year, and this number increased slightly to 84 cases in March, and gradually decreased with slight variations to 36 in July, falling to 18 cases at the end of December.

Some of the beds at the Walton Hospital and at the Olive Mount Hospital were utilised for the treatment of so-called "minor infectious cases" and this assistance proved very useful in dealing with the large number of cases reported for hospital treatment.

Beds were provided at the various hospitals during the year for patients suffering from the following diseases, viz.:—scarlet fever, diphtheria, measles, whooping cough, enteric fever, erysipelas, cerebro-spinal fever, encephalitis lethargica, anthrax, influenzal pneumonia and chickenpox.

The value of the hospitals and the immense amount of useful work performed, is shown by the fact that no less than 6,388 patients were admitted during the year.

The Hospitals Committee has agreed with various local authorities to receive cases of infectious disease from districts beyond the city boundary. Arrangements have also been made to deal with any case of cholera, yellow fever, or plague, which may arise in any of the neighbouring urban or rural districts. A suitable charge is made in each case.

Outside Areas and Smallpox.

It has always been recognised that the presence of smallpox in areas adjoining or close to Liverpool is a matter in which the city is vitally interested, as an outbreak of this disease, unless promptly dealt with, might result in the spread of the infection to the Liverpool area, and

also do considerable harm to the trading interests of the city and port. Accordingly, arrangements have been in force for some years with most of the local authorities in the district for any cases of smallpox occurring in their areas to be accommodated in Liverpool hospitals.

The question of smallpox cases in neighbouring areas was specially considered in 1928, when a number of the adjoining local authorities entered into an agreement to pay a retaining fee each year towards the upkeep of a smallpox hospital, the payment being based on census population, a further charge being made for the maintenance of each patient sent into the hospital for treatment.

This arrangement has been included in the Scheme formulated by the Lancashire County Council dealing with the provision of hospital accommodation for the treatment of smallpox under the Local Government Act, 1929.

Record of Treatment of Cases in City Infectious Disease Hospitals and Sanatoria.

The following tables, prepared by the medical staff of each of the city hospitals, show the number of patients admitted, the nature of the illness in each case and the results of treatment, during the year 1938:—

Diseases	Remaining Dec. 31st, 1937.	Admitted during the year.	Transferred from other City Hospitals.	Total under Treatment during the year.	Transferred to Convalescent Hospital.	Transferred to other City Hospitals.	Discharged.	Remaining at end of year.	Died within 48 hours of Admission.	Total Deaths.
City Hospital North, Netherfield Road.										
Scarlet Fever	59	420	17	496	—	10	448	38	—	-
Diphtheria	81	424	—	505	—	5	401	78	8	[illegible]
Measles	—	6	—	6	—	—	6	—	—	-
Other Diseases	14	223	—	237	—	1	226	9	—	
Totals	154	1,073	17	1,244	—	16	1,081	125	8	[illegible]

Diseases.	Remaining Dec. 31st, 1937.	Admitted during the year.	Transferred from other City Hospitals.	Total under Treatment during the year.	Transferred to Convalescent Hospital.	Transferred to other City Hospitals.	Discharged	Remaining at end of year.	Died within 48 hours of Admission.	Total Deaths.
City Hospital South, Grafton Street.										
arlet fever	36	213	7	256	—	2	234	20	—	—
phtheria	47	302	11	360	—	4	271	67	2	18
easles	—	8	—	8	—	2	6	—	—	—
hooping Cough	1	1	—	2	—	—	2	—	—	—
bservation cases	13	180	—	193	—	3	182	8	—	—
Totals	97	704	18	819	—	11	695	95	2	18
City Hospital East, Mill Lane, Old Swan.										
arlet Fever	12	186	—	198	—	2	177	18	—	1
iphtheria	131	662	—	799	—	3	660	106	6	30
easles	—	4	—	4	—	—	4	—	—	—
bservation Cases ...	19	268	—	287	—	—	272	14	—	1
Totals	162	1,126	—	1,288	—	5	1,113	138	6	32
City Hospitals, Fazakerley.										
carlet fever	39	473	33	545	—	32	456	55	1	2
nteric fever group ...	8	25	—	33	—	—	20	10	1	3
iphtheria	184	966	236	1,386	—	160	984	185	10	57
leasles	45	88	29	162	—	26	128	—	—	8
hooping Cough	18	99	18	135	—	18	96	—	1	21
ther diseases	91	1,113	63	1,267	—	55	1,051	126	9	35
Totals	385	2,764*	379	3,528	—	291	2,735	376	22	126

* These admissions include Fazakerley Isolation Hospital—1,948 cases, Fazakerley Annexe—746 cases and Sparrow Hall Hospital—70 cases.

Diseases.	Remaining Dec. 31st, 1937.	Admitted during the year.	Transferred from other City Hospitals.	Total under Treatment during the year.	Transferred to Convalescent Hospital.	Transferred to other City Hospitals.	Discharged	Remaining at end of year.	Died within 48 hours of Admission.	Total Deaths.
Fazakerley Sanatorium.										
Tuberculosis	282	281	—	563	—	—	212	277	1	74
Broadgreen Sanatorium.										
Tuberculosis	335	331	38	704	—	4	243	353	—	104
Observation Cases... ...	—	14	—	14	—	1	12	—	—	1
Totals	335	345	38	718	—	5	255	353	—	105
Cleaver Sanatorium,										
Tuberculosis	151	95	56	302	3	26	115	156	—	2

Infectious Disease Hospitals and Sanatoria.

Statement of Admissions, Discharges, Deaths, and Transfers.

Hospital or Sanatorium.	Remaining Dec. 31st, 1937.	Admitted	Transferred to	Discharged	Transferred from	Died.	Remaining Dec. 31st, 1938.
City Hospitals, Fazakerley	385	2,764	379	2,735	291	126	376
City Hospital North	154	1,073	17	1,081	16	22	125
City Hospital East	162	1,126	—	1,113	5	32	138
City Hospital South	97	704	18	695	11	18	95
Fazakerley Sanatorium	282	281	—	212	—	74	277
Broadgreen Sanatorium	335	345	38	255	5	105	353
Cleaver Sanatorium	151	95	56	115	29	2	156
TOTAL	1,566	6,388	508	6,206	357	379	1,520

General and Children's Hospitals and other Institutions.

Statement of Admissions, Discharges, Births, Deaths, and Transfers.

Hospital or Establishment	Remaining Dec. 26th, 1937	Admitted.	Transferred to	Born.	Discharged.	Transferred from	Died.	Remaining Dec. 31st, 1938.
Administered under the Poor Law Acts :—								
Belmont Road Institution ...	1,160	5,577	790	...	5,320	373	692	1,142
Kirkdale Homes	1,237	177	472	...	290	188	198	1,210
Olive Mount Children's Hospital ...	392	1,415	784	...	1,996	276	69	250
Cottage Homes, Fazakerley ...	384	43	178	...	124	87	...	394
Shaw Street Boys' Home	49	43	12	...	69	...	...	35
Seafield House	206	31	2	...	4	5	...	230
Administered under the Public Health Acts :—								
Walton Hospital	1,173	16,995	195	2,848	17,478	484	1,972	1,277
Smithdown Road Hospital ...	762	9,594	222	1,670	9,514	727	1,164	844
Mill Road Infirmary	384	10,024	169	1,603	10,496	384	797	503
Alder Hey Hospital	739	9,713	155	...	8,459	762	658	728
TOTAL	6,486	53,612	2,980	6,121	53,750	3,286	5,550	6,613
CASUAL WARDS— Belmont Road...	21	3,619	...	...	3,632	...	...	8

HOSPITALS, SANATORIA, AND INSTITUTIONS UNDER THE CONTROL OF THE HOSPITALS AND PORT HEALTH COMMITTEE.

Name of Institution.	Built by	Date of Foundation.	Number of Beds, Dec. 31st, 1938.	Original User.	Present User.	Area.
						Acres.
Walton Hospital	West Derby Union	1864	1,858	General Mixed Institution ...	General Hospital :—(*a*) Acute and subacute medical, surgical, gynaecological and special ; (*b*) Adult pulmonary tuberculosis unsuitable for sanatorium treatment ; (*c*) Maternity ; (*d*) Isolation for minor infectious diseases in children ; (*e*) Nursery for newly-born and illegitimate children.	35
Belmont Road Institution ...	West Derby Union	1890	1,582	General Mixed Institution ...	Healthy adults including casuals, aged, infirm, and bedridden men and women. Skin diseases. Casual Wayfarers.	18
Smithdown Road Hospital ...	Township of Toxteth Park	1858	1,220	General Mixed Institution ...	General Hospital :—(*a*) Acute and subacute Medical, Surgical and Gynaecological and special cases ; (*b*) Acute mental disease ; (*c*) Chronic senile dementia (females) ; (*d*) Low grade mentally defective children; (*e*) Female epileptics ; (*f*) Maternity.	15
Kirkdale Homes	Liverpool Select Vestry	1843	1,531	School for Destitute Boys ...	Homes for aged and infirm men and women . Chronic and senile mental diseases (males). Chronic Encephalitis Lethargica. Male Epileptics.	16
Mill Road Infirmary	West Derby Union	1838	762	General Mixed Institution, but present buildings intended only for Hospital use.	General Hospital for acute disease, Medical, Surgical, Gynaecological, Maternity and Special, Male and Female Venereal Diseases.	5
Alder Hey Children's Hospital ...	West Derby Union	1914	930	Infirm and Aged	General Children's Hospital. Medical, Surgical, Orthopaedic (including Surgical Tuberculosis).	17
Olive Mount Children's Hospital...	Liverpool Select Vestry	1903	475	Receiving Home for Children, Cottage Homes for Children.	Receiving Home for Children. Nursery for destitute children, 4 years. Acute infectious diseases (Measles, Whooping Cough, and Chicken Pox). Convalescent Children.	49
Seafield House	Leased from Mersey Docks & Harbour Board by West Derby Union.	Leased 1912 (Renewed 1932)	236	Hydropathic adapted for present use.	Mentally defective children (mainly imbecile and ineducable of higher grade)	8
Cleaver Sanatorium	West Derby, Liverpool, and Toxteth Park Joint Hospital Committee.	1903	200	Pulmonary Tuberculosis ...	Tuberculosis in Children	22
Deysbrook House	Purchased by West Derby Union ...	1911	—	Private Home for Children ...	Not in use.	26
Broadgreen Sanatorium	Liverpool Select Vestry	1906	353	Infirm and Aged	Sanatorium for Tuberculosis. Male and Female, Adult and Children. Pulmonary	40
Fazakerley Sanatorium	Liverpool City Council	1920	309	Pulmonary Tuberculosis in Adults.	Original use.	60
Fazakerley Isolation	Liverpool City Council	1906	352	All Types of Infectious Disease except Small Pox.	Original use.	35
Fazakerley Annexe	Liverpool City Council	1901	118	All Types of Infectious Diseases	Original use. Available for Small Pox.	30
Sparrow Hall	Liverpool City Council	1917	—	Small Pox Hospital	Not in use.	26½
City Hospital North	Dr. Gee	1866	187	Infectious Disease	Scarlet Fever, Diphtheria and Measles.	3
City Hospital East	Wavertree Urban District Council ...	1888	174	Infectious Disease	Diphtheria and Scarlet Fever.	4½
City Hospital South	Liverpool City Council	1884	101	Infectious Disease	Scarlet Fever, Diphtheria, and Measles.	2
			10,388			

MUNICIPAL HOSPITALS and INSTITUTIONS.

The Hospitals and Institutions under the management of the Hospitals and Port Health Committee number 16, in addition to the Port Health Hospital at New Ferry. They may be classified as follows:—

(*a*) Isolation Hospitals and Sanatoria, the property of the Liverpool Corporation prior to 1930	7
(*b*) Hospitals transferred under the Local Government Act, 1929, and subsequently appropriated	5
(*c*) Hospitals and other Institutions transferred under the Local Government Act, 1929, and not appropriated ...	4
Total	16

During the year the Cottage Homes, Fazakerley, and the Boys' Home, Shaw Street, were transferred to the management of the Education Committee.

A description of these Institutions is appended in the accompanying table.

GENERAL REVIEW.

During 1938 there were included in the Annual Estimates capital sums for the extension of the hospital buildings as varied subsequently in certain cases by the City Council. The following statement shows the allocation of funds and the progress that has been made.

	£	Position, March 31st, 1939.
Nurses' Homes.		
Mill Road Infirmary.	11,000	Plans in preparation.
Continuation Departments.		
Mill Road Infirmary.	22,369	Work completed.
Walton Hospital.	20,000	Plans approved. Substitution buildings in process of erection.
Laundry Extensions. Belmont Road Institution.	70,000	Plans prepared.
Boiler House Extensions, etc. Belmont Road Institution.		Scheme submitted to Ministry of Health.

	£	Position, March 31st, 1939.
Fazakerley Sanatorium.		
Treatment Block.	7,335	Completed.
Fazakerley Annexe Hospital.		
Replacement of Wooden Ward.	6,833	Completed.
Kirkdale Homes.		
Mortuary.	1,594	Completed.
Cleaver Sanatorium.		
Rest Room.	4,073	Completed.
Alder Hey Children's Hospital.		
Splint Shop, etc.	5,507	Completed.
Extension of Quarters for Resident Medical Staff.	3,677	Completed.
New Laboratory and extension of X-ray Department.	3,350	Plans approved.

The provision of additional accommodation for nurses necessitated by the conversion of poor-law institutions into hospitals, the reduction of hours of nursing staffs, and the greatly increased user of hospitals and more rapid turnover of beds is now well in hand with the exception of Mill Road Infirmary, where the need for an extension of the Nurses' Home becomes yearly more urgent. It is hoped that a site will become available in the course of the next twelve months and plans are now in preparation.

The continuation department at Mill Road Infirmary is now completed.

The need for a building to house the continuation department at Walton Hospital is great. These departments are essential to the economic running of these hospitals by permitting the early discharge of patients where this is practicable. The plans for the substitution buildings containing the linen stores and sewing room and also for a cloak room and canteen for daily workers have been approved by the Council, and work was begun on this building towards the end of the year. When this building is completed it is hoped that it will then be possible to demolish the present admission building, which is quite unsuitable for this purpose and has not been so used for many years, and proceed with the erection of an admission and continuation building the plans of which have already been prepared.

The re-organisation of the laundries which has been in progress during the last few years is now well nigh completed with the exception of Belmont Road Institution laundry; here the reconstruction of the laundry is tied up with a complete re-organisation of the boiler and heating services which are of an antiquated and piecemeal character and both inefficient and expensive. A complete scheme of re-organisation which it is anticipated will show considerable saving has been placed before the Ministry of Health.

During 1937 the approval of the Ministry of Health was obtained for the appropriation, under the Public Health Acts, of Smithdown Road Hospital, and sanction was obtained for the appropriation of the Hospital as from April 1st, 1938. This now completes the appropriation of transferred hospitals, namely, Alder Hey Children's Hospital in 1932, Mill Road Infirmary in 1932, Walton Hospital and Cleaver Sanatorium in 1935. The other transferred institutions subserve, in whole or in part, essentially Poor Law functions and do not appear at present to be suitable for appropriation.

Hospital Services.

The number of persons admitted to the hospitals bears a direct relationship to the prevalence of infectious diseases and influenza which varies from year to year. Epidemics of influenza and measles recur at intervals of approximately two years as a rule, and measles was prevalent late in 1937, continuing into the first few months of 1938. During December of 1938, there began a definite outbreak of influenza and this reached the dimensions of a considerable epidemic in January, 1939, but the onset of the outbreak was too late to cause any large numbers of cases to be admitted in 1938. There was a decrease of 230 influenza patients as compared with 1937. Diphtheria and scarlet fever prevailed in the spring, although relatively inactive in the second half of the year. The numbers admitted to the isolation hospitals were correspondingly reduced by 643. There was a decrease in the cases of infectious diseases admitted to the transferred hospitals of 50. Persons suffering from pneumonia or other complications of influenza are admitted to all the hospitals.

There was a decrease in the discharges, etc., from the transferred institutions of 541 patients in 1938 as compared with the previous year.

The main part of the decrease in admissions was on the medical side, diseases of the respiratory system decreasing by 579, corresponding with the decrease of influenza, diseases of the digestive system by 410, and diseases of the nervous system by 200.

On the other hand there was an increase in the numbers of cases of rheumatism and arthritis of 276, of circulatory diseases of 240, of accident cases of 230, and of diseases of the urino-genital system of 210, and cancer cases increased by 167.

COMBINED DISCHARGES AND DEATHS OF PATIENTS IN MUNICIPAL INSTITUTIONS IN 1938 COMPARED WITH 1937.

INCREASE.		DECREASE.	
Malignant Disease	167	Tuberculosis	5
Rheumatism and Arthritis ...	276	Diseases of Nervous System ...	200
Venereal Disease	15	Acute Infectious Disease ...	50
Puerperal Fever and Pyrexia...	3	Influenza	230
Other diseases and accidents of Pregnancy	132	Senile Dementia	134
Accidental Injury and Violence..	233	Other Mental Disease	89
Diseases of Circulatory System..	240	Senile Decay	63
Diseases of Skin...	44	Diseases of Respiratory System	579
Diseases of Genito-urinary System	210	Diseases of Digestive System...	410
Babies	38	Other Diseases	8
		Mothers	131
	1,358		1899

Net decrease, 541.

These figures are shown in detail for the four principal hospitals in the accompanying tables. Nine years have now elapsed since the transfer of the general hospitals to the City, and as between 1930 and 1938 there was an increase in the admissions to the four hospitals of 14,286 patients, or 45 per cent. The character of the work carried out has also greatly altered, methods of examination and treatment having been considerably extended. Thus X-ray examinations have advanced from 13,899 to 58,442, an increase of 44,543, or 320 per cent. Pathological examinations have similarly increased from 29,603 to 107,535, an increase of 77,932 or 263 per cent.; the increase is actually greater, both in

To face page 162.

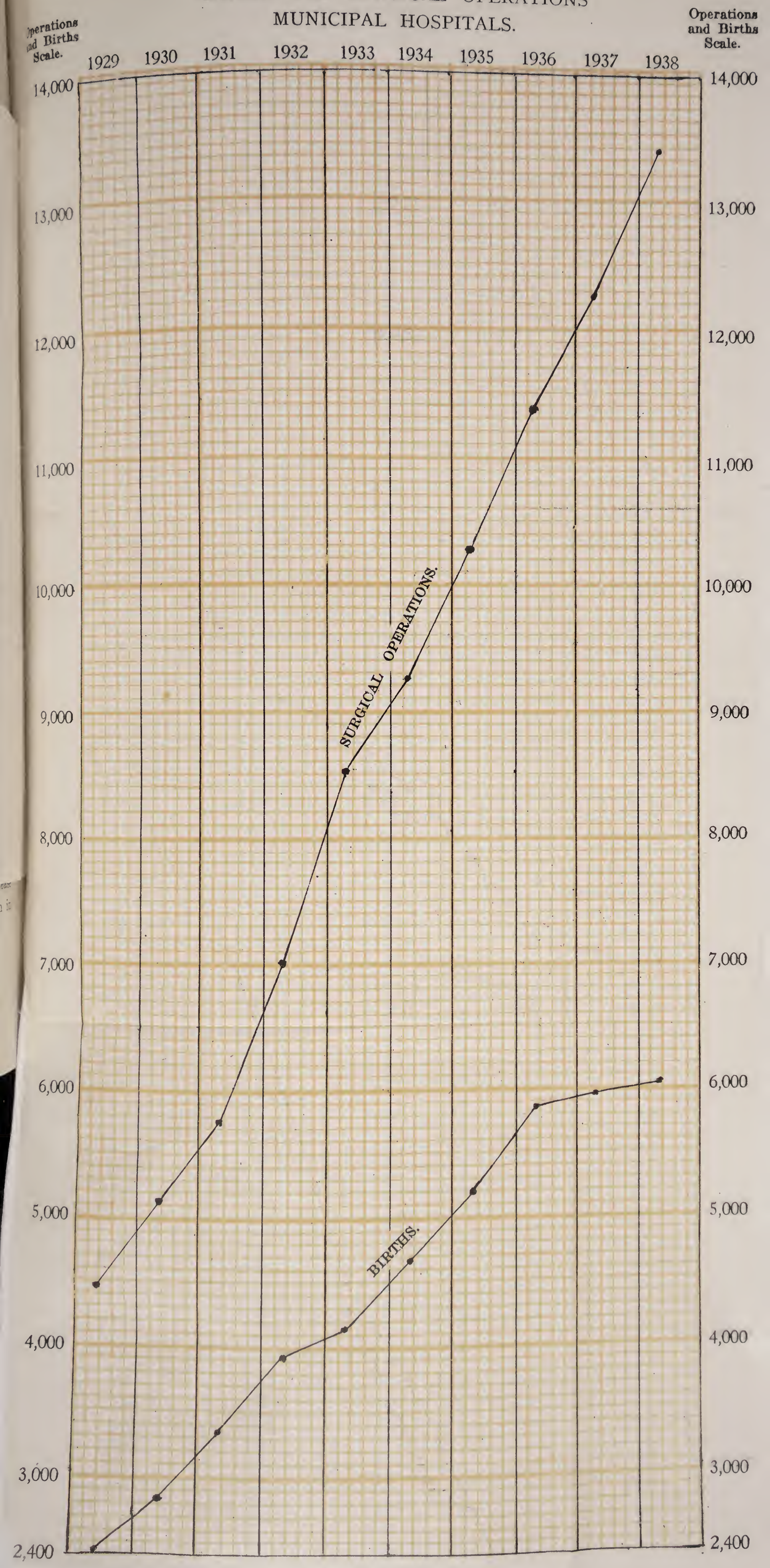
DETAILS OF ADMISSIONS, DISCHARGES, ETC., AND WORK UNDERTAKEN AT THE FOUR MUNICIPAL HOSPITALS FOR PERIOD 1934 to 1938.

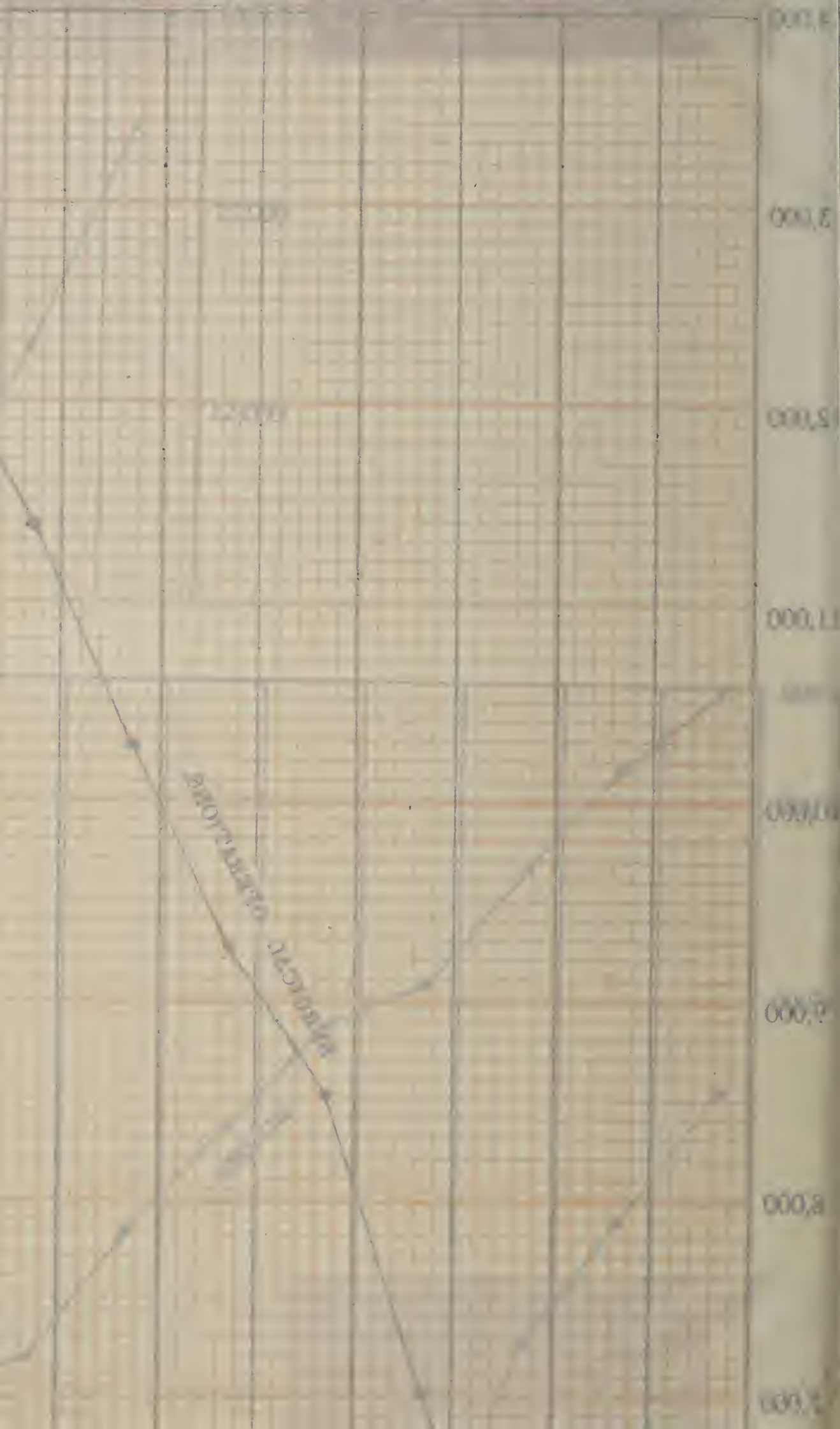
	Walton Hospital					Smithdown Road Hospital.					Mill Road Infirmary.					Alder Hey Hospital.				
	1934	1935	1936	1937	1938	1934	1935	1936	1937	1938	1934	1935	1936	1937	1938	1934	1935	1936	1937	1938
Admissions	15,245	15,809	16,094	16,816	16,995	8,979	9,417	9,777	9,413	9,594	8,200	9,107	9,407	9,540	10,024	7,966	9,870	8,935	10,023	9,713
Transferred to	222	224	202	149	195	194	167	180	180	223	65	127	202	169	169	637	429	186	179	155
Born	1,976	2,169	2,570	2,817	2,848	1,397	1,482	1,721	1,651	1,670	1,322	1,549	1,553	1,525	1,603	—	—	—	—	—
Discharged	15,209	15,711	16,617	17,294	17,478	8,440	9,013	9,602	9,430	9,514	8,558	9,685	10,066	10,070	10,496	7,102	8,149	7,468	8,692	8,459
Transferred from	571	458	507	497	484	955	800	830	687	727	293	262	353	406	384	808	1,247	1,157	757	762
Died	1,782	1,903	1,943	2,001	1,972	1,183	1,294	1,284	1,195	1,164	702	830	821	784	797	719	756	578	735	658
Surgical Operations	3,607	3,897	4,345	5,279	5,468	922	839	1,308	1,698	1,729	2,416	2,787	3,110	3,144	3,900	2,266	2,715	2,612	2,179	2,327
Out-Patient Attendances ...	33,708	49,017	62,443	65,216	66,850	19,633	27,871	32,731	39,375	37.733	51,341	82,917	92,595	89,254	85 501	32,213	43,748	43,602	41,744	33,001
Pathological Examinations ...	24,506	29,018	28,742	27,102	30,098	9,160	10,843	14,619	15,397	20 611	17,071	26,145	24,914	23,607	25,226	6,838	12,584	20,085	26,195	31,600
Post-mortems	1,109	1,344	1,275	1,167	1,067	98	84	94	79	76	227	295	347	174	191	92	90	158	215	131
X-Ray Examinations... ... (Radiographs)	17,292	20,181	23,717	23,788	22,328	5,531	8,091	8,549	8,477	8,079	11,008	13,329	11,975	13,166	14,708	8,081	9,983	9,944	11,650	13,327

* These figures correspond with the returns to the Ministry of Health and are made up to the last week-end of each year. This accounts for the slight variation between the figures returned by the respective Hospitals which are for the actual Calendar year.

CITY OF LIVERPOOL.

BIRTHS AND SURGICAL OPERATIONS MUNICIPAL HOSPITALS.





numbers and character, than is indicated by this figure because at Walton Hospital many examinations formerly carried out in the laboratory are now made in the clinic rooms attached to each division. Further, the appointment of two medical pathologists at Walton and Mill Road group laboratories has radically altered the nature of the examinations made. Surgical operations have advanced from 5,147 to 13,424, an increase of 8,277, or 161 per cent. In comparison with the previous year there was an increase of 1,124 operations. There has been an alteration in the character of the work, many more acute cases, such as road accidents and other surgical emergencies, being admitted. It is beyond question that such an expansion of the work of the hospitals has made and will make increasing demands upon the medical, nursing and technical staffs of the hospitals

A feature of the year's work has been the great improvement in the treatment of cases of pneumonia, cerebro-spinal fever, gonorrhœa and other conditions by newly-introduced drugs.

Maternity Departments.

The number of births has increased since 1930 from 2,858 to 6,030, an increase of 3,172 births or 111 per cent. The maternity wards were, for the most part, not specially built for this purpose, although certain essential adaptations have been made; many of the ward units being too large. The ante-natal clinics are quite inadequate and are much overcrowded. The character of these units is now under review, and increasing co-operation is being established with the district ante-natal clinics and the midwifery service of the city. Provision has been made for an ante-natal clinic in the new Continuation Department at Mill Road Infirmary, which was completed at the end of 1938.

Plans have been prepared for a labour suite at Mill Road Infirmary to be built with an altered allocation of wards for lying-in women. At Smithdown Road Hospital a new building is proposed. Despite the defects just noted admirable work has been done in the maternity units and a very low maternal mortality has to be recorded for the year 1938. The number of deaths of mothers confined throughout in the City Hospitals was 1·3 per thousand compared with a figure of 69 per thousand for those admitted after having

received outside attention. The figures for those confined throughout in the hospitals are heavily loaded by the deaths of patients who were admitted on account of illness complicating pregnancy.

The Minnett gas and air apparatus was used in 4,214 cases with immense relief of suffering.

Continuation Departments.

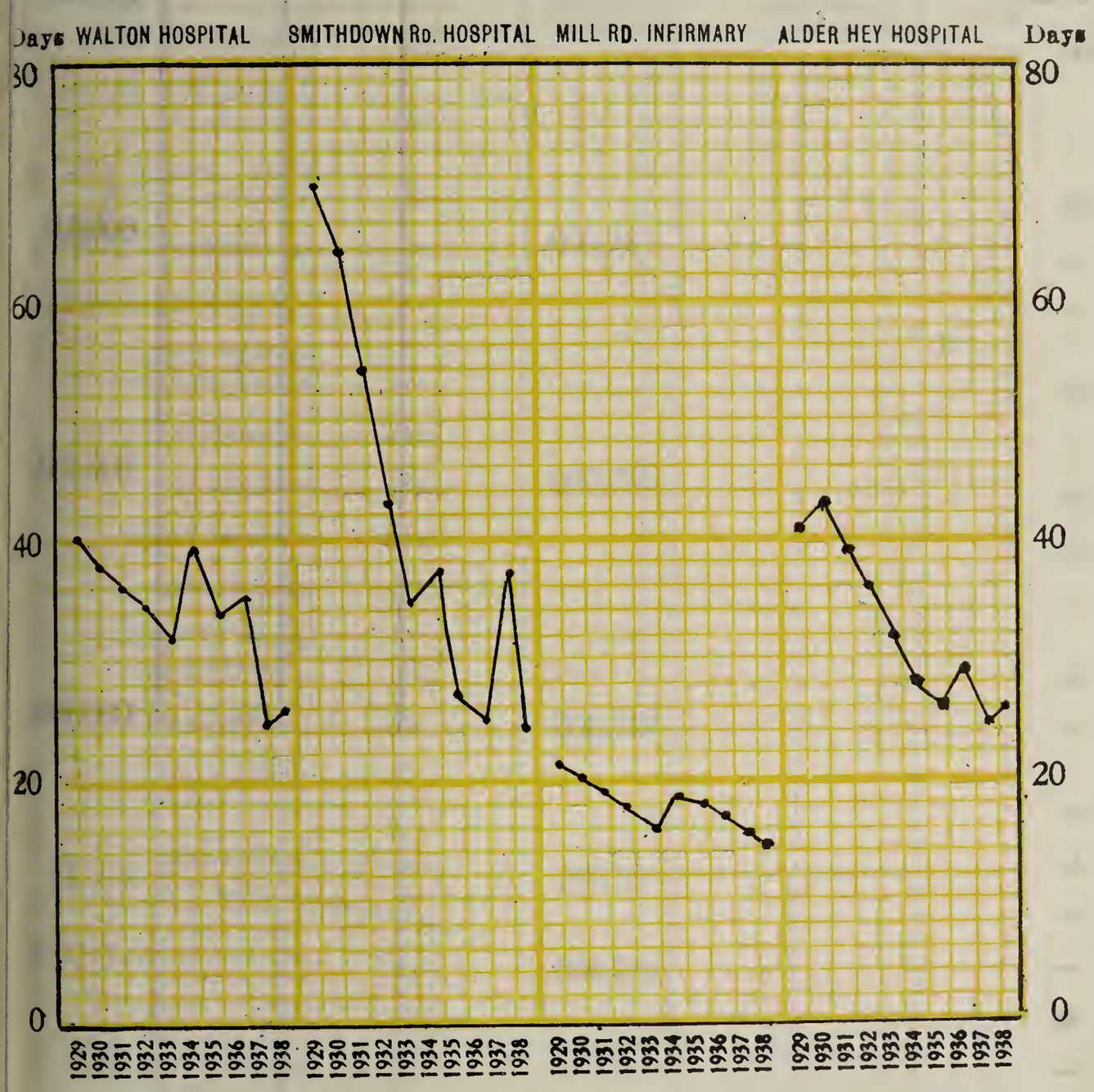
The number of persons treated in the Continuation Out-patient Departments has again markedly increased, the numbers of persons attending having been 72,051. Figures of attendances at these departments are not available for all the hospitals for the whole period but they have increased from 89,828 in 1932 to 248,562 in 1938, an increase of 158,734 or 177 per cent. in the short period of seven years. The transferred hospitals contained no buildings erected or adaptable for this purpose. The new admission and continuation block at Alder Hey Hospital was completed in 1932, that at Smithdown Road Hospital in 1936, and the new block at Mill Road Infirmary, which also includes provision for an ante-natal clinic, was completed during 1938. Here since 1931, the continuation attendances have increased from 5,744 to 85,501.

The need for a similar department at Walton Hospital is almost equally pressing, the continuation attendances having increased from 12,845 to 66,850 in the same period; the ante-natal clinic in the maternity unit is quite inadequate for the increasing numbers attending and an ante-natal clinic should be provided in a new building. Plans were submitted to the Committee during the year and fully considered. The necessary replacement of sewing rooms and linen and clothing stores, which were contained in the former admission department, has required the erection of a separate building situated near the laundry. The plans for this building have been approved and it is now in process of construction.

The accompanying graph shows the increase in the number of out-patient attendances and also of admissions during the period since the transfer of the hospitals of the former Board of Guardians. The increase in these attendances has permitted the earlier discharge of patients as shown in the graph facing this page. It is only the shortened

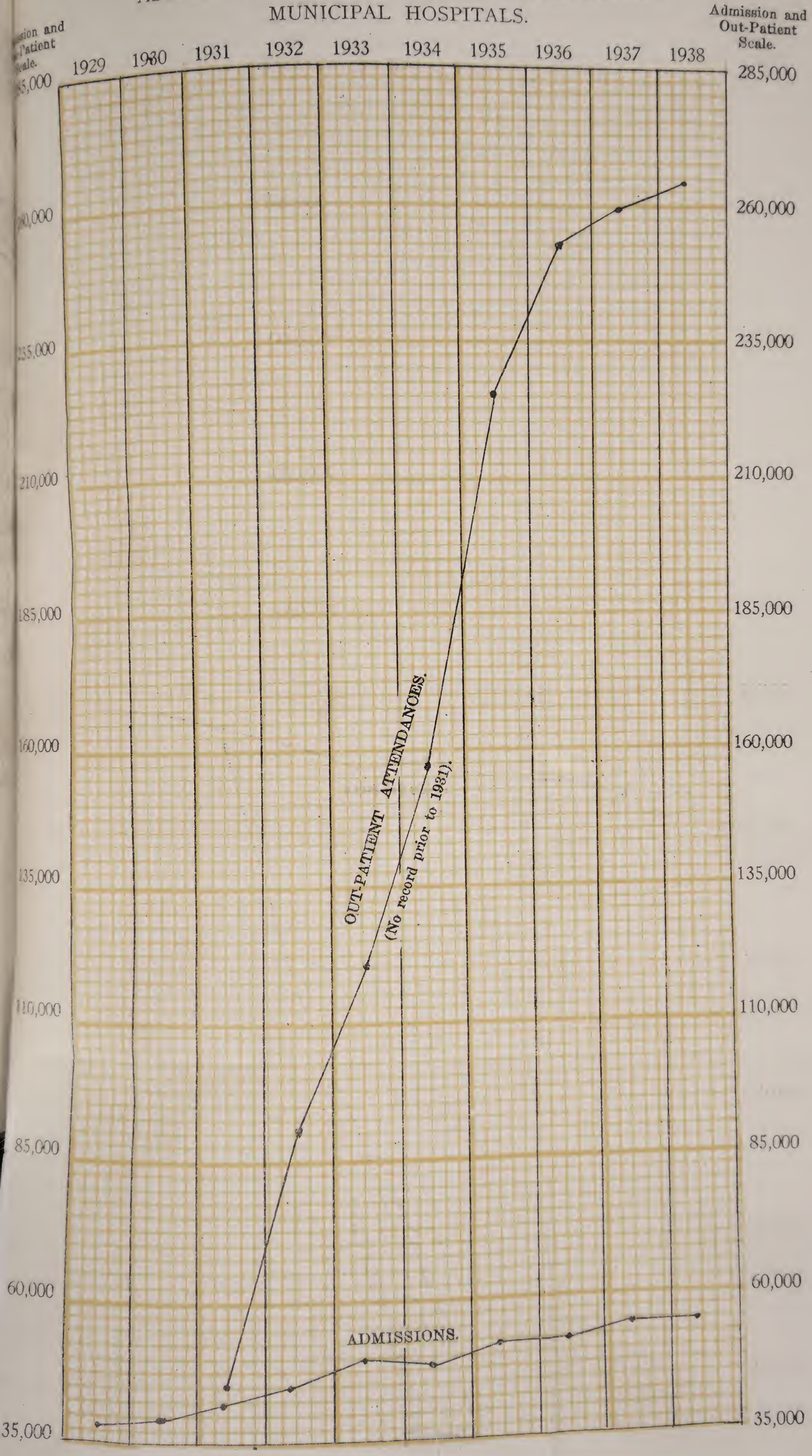
CITY OF LIVERPOOL.

AVERAGE DURATION OF STAY—MUNICIPAL HOSPITALS—1929-1938.



CITY OF LIVERPOOL.

ADMISSIONS AND OUT-PATIENT ATTENDANCES MUNICIPAL HOSPITALS.



MUNICIPAL HOSPITALS AND INSTITUTIONS.

International Disease Classification of Patients Discharged for any reason.
Period 12 months ended 31st December, 1938.

Sickness Diagnosis.	Walton.		Smithdown Road.		Mill Road.		Alder Hey.		Belmont Road.		Kirkdale.		Olive Mount.	
	No. of Persons Discharged.	Average days maintenance per case.	No. of Persons Discharged.	Average days maintenance per case.	No. of Persons Discharged.	Average days maintenance per case.	No. of Persons Discharged.	Average days maintenance per case.	No. of Persons Discharged.	Average days maintenance per case.	No. of Persons Discharged.	Average days maintenance per case.	No. of Persons Discharged.	Average days maintenance per case.
1. Infectious Disease (including Tuberculosis) ...	1,318	54	206	23	660	25	738	54	136	49	11	1,366	737	42
2. Cancer and other Tumours (Malignant Disease, Carcinoma, Sarcoma, etc.)	815	48	239	35	233	22	1	46	28	447	10	1,459	—	—
3. Rheumatism, Diseases of Nutrition and of Endocrine Glands and other General Diseases	768	40	378	29	412	21	766	54	37	440	3	1,301	2	41
4. Diseases of Blood and Blood-forming Organs ...	81	40	71	30	67	14	31	38	5	58	1	51	—	—
5. Chronic Poisoning	19	6	10	6	8	2	—	—	3	1	—	—	—	—
6. Diseases of Nervous System and Sense Organs other than Encephalitis Lethargica	945	26	1,347	48	447	15	912	27	296	194	166	663	4	23
7. Diseases of Circulatory System	1,730	34	907	48	814	14	328	35	523	248	54	1,187	—	—
8. Diseases of Respiratory System	1,471	26	808	27	947	14	2,335	22	211	156	28	1,305	65	19
9. Diseases of Digestive System	2,071	22	1,413	23	1,377	16	2,055	12	29	316	6	863	2	22
10. Non-venereal diseases of Genito-urinary System	1,234	22	704	21	935	16	501	16	15	212	5	1,448	—	—
11. Diseases of Pregnancy, Childbirth, and the Puerperal State	6,647	15	3,974	13	3,860	12	—	—	3	75	—	—	—	—
12. Diseases of Skin	494	24	181	20	256	17	375	15	3,501	23	11	1,322	—	—
13. Non-Tuberculous Diseases of Bones and Organs of Locomotion	275	28	86	34	248	22	283	60	1	115	1	1,175	—	—
14. Congenital Malformations	17	23	3	7	7	17	63	31	1	24	—	—	1	4
15. Diseases of Early Infancy	101	7	32	3	89	21	381	28	8	17	—	—	—	—
16. Old Age, Senile Decay (not senile dementia) ...	56	32	81	52	32	10	—	—	122	383	338	631	—	—
17. Violence	1,202	22	613	25	761	18	664	17	34	53	33	835	1	63
18. Ill-defined Diseases	77	25	216	17	209	8	298	12	2	83	—	—	—	—
19. Convalescence	—	—	—	—	2	24	—	—	2	7	—	—	568	36
20. Healthy Lactating Mothers	3	39	—	—	22	10	—	—	—	—	—	—	—	—
21. Healthy	341	63	2	15	30	11	—	—	1,331	62	1	2,767	890	49
Totals	19,665		11,271		11,416		9,731		6,288		668		2,270	

period of stay in hospital which has rendered possible an increase of 14,651 patients, i.e., 46 per cent., during the period in question, without any increase in the number of beds in these hospitals. The provision of continuation departments enables real economy to be effected with benefit to the patients.

Attention is directed to the very large increase in the attendances at the orthopaedic and fracture clinics. For example, at Walton Hospital the attendances have increased from 4,629 to 12,620 in four years.

There has been a marked increase in the number of eye cases and of dental patients, a considerable and increasing proportion of whom are referred from the Public Assistance Committee. It is hoped that the provision of a dental panel may reduce the number of dental patients.

Infectious Diseases.

The amount of infectious disease fluctuates considerably from year to year. The principal feature of this branch of the hospital services has been the high prevalence of diphtheria in the City since 1930. For the last few years there has been a moderate but steady diminution in the number of cases admitted, but this disease became more prevalent in the Autumn of 1937. The numbers of cases of and deaths from diphtheria were identical in 1937 and 1938, namely 2,465 cases and 148 deaths respectively. Diphtheria continues to be of the severe type associated with *gravis* and *intermediate* types of the diphtheria bacillus and requiring prolonged treatment in hospital averaging about seven weeks.

During the past year, with the very valued help of the City Bacteriologist, improvements have been effected in the bacteriological diagnosis of diphtheria. Advances in bacteriological technique made it improbable that patients who present appearances resembling diphtheria, from whom the diphtheria bacillus cannot be recovered, are really suffering from diphtheria. Such patients can accordingly be released from hospital at a much earlier date than would formerly have been permissible, with advantage both to the patient and to the city. As a result of the experience at certain of the hospitals it

was found in 1938 that the diagnosis of diphtheria made before admission was confirmed in 67 per cent. and not confirmed in 33 per cent. of cases. By arrangements made with the Medical Research Council an investigation is now being carried out by the City Bacteriologist into the question of cross-infection with other types of the diphtheria bacillus.

The number of patients admitted to the Isolation Hospitals during 1938 was 5,667, a decrease of 643 compared with 1937. Wards for measles, whooping cough, etc., are attached to Walton and Olive Mount Hospitals, and there was a decrease of 190 in the numbers of children suffering from these diseases who were admitted to the transferred hospitals during 1938.

The number of cases of measles, which recurs in epidemics at intervals of approximately two years, was high early in the year reaching a maximum in the first quarter of the year, and placed heavy demands upon the isolation hospital accommodation at that time.

The reduction in the numbers of fever cases permitted some relief to the general and children's hospitals. Two of the four ward-blocks at Olive Mount Children's Hospital, formerly occupied by fever cases, were released for the reception of convalescent cases from Alder Hey for the greater part of the year.

During the prevalence of measles, whooping cough and chicken-pox it frequently occurs that children who have diphtheria or scarlet fever and are also suffering from, or have been exposed to, one of these three diseases, are notified to the Health Department for removal. Such cases cannot be admitted into the ordinary wards nor into those used for " bed isolation." The only suitable accommodation for such cases is in separate individual wards or cubicles, failing which the patient must be left at home. The need for additional cubicles for such cases has been felt for some years. During 1934 plans were drawn up and submitted to the Ministry of Health for four blocks of cubicles at Fazakerley Isolation Hospital, each block to contain 16 cubicles, and these were opened early in 1938. They have proved of very great value.

The use of the 95 cubicles at Alder Hey Children's Hospital was again an unqualified success, and 2,428 children were admitted into them

during the year. In view of the frequency of occurrence of cases of infectious diseases in the Children's Skin Hospital at Belmont Road hospital, a similar conversion of 3 wards into 36 cubicles has been effected there.

The completion of these several blocks of cubicles has greatly strengthened the facilities of the city for the treatment of infectious disease. During the months April to December, Sparrow Hall Hospital was entirely disused. A very considerable saving of expense has thus been effected. The hospital was prepared to receive patients during the Crisis of September, but no patients were actually admitted.

The number of patients admitted from areas surrounding Liverpool has increased recently; this increase is consistent with the growth of the population of these areas.

Medical Services.

In previous reports it was indicated that, in order to make the maximum use of the available hospital beds, increases in the medical, nursing and technical staffs were necessary. The advances in medicine and surgery made during the present century have been very great. These advances not only have provided cures for many diseases formerly incurable, but have greatly facilitated the earlier and more accurate diagnosis of many conditions, thus permitting an earlier or more rapid alleviation. Work of this character requires a greater number of resident medical officers and nurses, and calls for the services of specialists in all branches of medicine and surgery and also in the laboratories and X-ray rooms.

During the year the following appointments were made:—

Philip Garson, F.R.C.S., L.R.C.P., D.L.O., Visiting Oto-Rhinologist, Smithdown Road Hospital.

One additional R.A.M.O., Alder Hey Hospital.

Diagnostic Services and Equipment.

The number of radiological examinations has shown an increase from 51,584 in 1935, to 58,442 in 1938.

The completion of the treatment block at Fazakerley Sanatorium, which houses the X-ray Department, was made the occasion for a complete overhaul of the apparatus there, which is now entirely shock-proof. This completes the shock-proofing of the X-ray apparatus throughout the City Hospitals.

A portable X-ray apparatus suitable for photography and screening was supplied to the Cleaver Sanatorium during 1938. This obviates the expense and delay in transferring children to and from Fazakerley or Alder Hey Hospitals for this purpose.

The pathological laboratory examinations have risen to 107,535, an increase of 15,234 over the examinations made in the previous year. The increased calls upon the services of the staff in the Southern Hospital Group will call for some additional medical assistance at Alder Hey Hospital where the work has rapidly increased. The very great increase in the work of the laboratory at Alder Hey Hospital has necessitated an entirely new laboratory, plans for which were approved in 1938. The X-ray department there will be enlarged by the addition of a new developing room and a viewing room on the ground floor. On the first floor the Laboratory will be placed and will contain bacteriological and biochemical rooms, a preparation room and an office and waiting-room. It will be in communication with the old laboratory which will be available as a research laboratory.

Nursing Services.

The increases in the number of operations and in the work of the continuation departments referred to above make additional calls upon the nurses in the hospitals, as do advances in various other departments. In the four principal hospitals, nurses have had to be accommodated in makeshift quarters of varying degrees of unsuitability, and even these annexes do not provide for the requisite number of nurses.

Extensions of the existing nurses' homes were accordingly required at each hospital, and this work has now been completed at each of the transferred hospitals with the exception of Mill Road Infirmary.

At Mill Road Infirmary any extension of the Nurses' Home is dependent upon acquiring a site for building. The site of an adjacent

school, which is not up to modern standards, is eminently suitable for this purpose, but before this can be demolished a new school will require to be erected in replacement. A site is available, and it is understood that this has been approved by the Board of Education and that plans have been submitted to the Board. In the meantime, plans for the new Nurses' Home are now in preparation. The accommodation for the nurses at this hospital has for long been inadequate and in several cases is of a makeshift character and quite unsuitable.

The increase in the number of maternity cases and of the attendances at the ante-natal clinics necessitates corresponding additions to the number of pupil midwives. A considerable proportion of the nurses training in the three general hospitals take the Certificate of the Central Midwives Board. New regulations for the training of midwives have been made by the Board, and the examination for the certificate will from May, 1939 onward be taken in two parts.

The number of nurses and pupil midwives who have completed their training and passed their final examinations at the several hospitals during the year was as follows:—

	General Nursing Certificates	Children's Nurse's Certificates.	C.M.B. Certificates.	Fever and Tuberculosis Certificates.	R.M.P.A. Certificates.
Walton Hospital	57	—	48	—	—
Mill Road Infirmary	26	—	26	—	—
Smithdown Road Hospital	24	—	39	—	—
Alder Hey Children's Hospital ...	—	25	—	—	—
Group I	—	—	—	—	—
Group II	—	—	—	—	—

During 1936 a course in housekeeping and administration for senior nurses was started, training taking place at each of the three General Hospitals and at Alder Hey. Lectures have been given on dietetics by Dr. R. Gaddie, B.Sc., and also by Drs. Crosbie, Steel and Findlay. An examination is held at the end of each course, which occupies six months.

Almoners in Municipal Hospitals.

The transfer of the former Poor Law Hospitals to the management of the Hospitals and Port Health Committee and the subsequent appropriation of Alder Hey Children's Hospital and the three General Hospitals under the Public Health Acts placed the position of the assessment and collection of the costs of maintenance on a new and different basis. It had been apparent for a number of years that the number of persons admitted to the Municipal Hospitals and Institutions through the Relieving Officers was diminishing, whilst the numbers admitted at the request of the patient's medical attendants was increasing steadily and now formed a considerable majority of the patients admitted to hospital.

It was also felt that many of the persons admitted to hospital were in need of various forms of assistance, after-care, convalescent treatment or the benefit of social assistance which the manifold charitable agencies of the City were able, in suitable cases, to provide.

The time appeared opportune for the appointment of lady almoners who would be capable of carrying out the twofold duties just outlined, and the sanction of the Council was given to the commencement of an Almoner Service to operate from November 1st, 1935. The service was restricted to the General Hospitals and to Belmont Road Institution where a large number of skin patients attending the clinic called for such assistance.

The following staffs were appointed:—

	Walton Hospital.	Mill Road Infirmary.	Smithdown Road Hospital.	Alder Hey Hospital.	Belmont Road Institution.
Almoners	1	1	1	1	—
Assistant Almoners	2	—	1	—	1
Collectors	1	2	1	1	—
Receptionists and Clerks ...	2	4	3	3	—
TOTAL ...	6	7	6	5	1

Buildings and Equipment.

General Review.

The Hospitals and Institutions under the control of the Hospitals and Port Health Committee comprise the buildings transferred from the West Derby Board of Guardians in 1930 and the isolation hospitals and sanatoria which were built by the Municipality before that date, all the latter—with the exception of Fazakerley Sanatorium and the temporary hospital at Sparrow Hall—being constructed before the war.

The buildings transferred from the Guardians were, with the exception of Mill Road Infirmary and Cleaver Sanatorium, constructed mainly for the reception of healthy or merely aged and infirm persons. Occasionally buildings, such as portions of Smithdown Road Hospital, were built for the reception of the sick. It had been apparent for a considerable time that the number of sick, of women entering hospital for confinement, and of bed-ridden infirm, was steadily increasing, and this increased user of the buildings as hospitals has advanced rapidly since the transfer as shown in previous sections of this report. The principal requirements were for extensions of Nurses' Homes, for Continuation Departments, and for Maternity Wards.

To cope with this increased need for hospital accommodation of non-infectious cases, the Board of Guardians had, in the years succeeding the war, carried out an extensive internal reconstruction of Walton Workhouse, which converted it into the largest general hospital in this country. This reconstruction, however, was by no means complete, and in order to render it adequate for its present use certain new buildings, as well as internal re-arrangements, had still to be built. The buildings required were a Nurses' Home, an Admission and Continuation Department, and a Maternity Building. The New Nurses' Home was the first of these to be completed. Plans for the Admission and Continuation Department and for certain replacement buildings have been prepared, and the latter are now in process of erection.

At Mill Road Infirmary the urgent needs were for a Continuation Department and an extension of the Nurses' Home. A new Continuation Department was completed during 1938. It is linked up with the main building by a bridge, and contains an ante-natal clinic, massage department, almoner's office, dental clinic, etc., in addition to clinics for medical, surgical and orthopaedic cases.

The Nurses' Home extension can only take place when a site is available and this site has not yet been acquired. The provision of wards for maternity cases is a difficult matter, owing to the lack of land for a new building.

At Smithdown Road Hospital an admission and continuation department, and an extension of the Nurses' Home have already been carried out. There is need for a Central Stores which will not only permit a number of separate departments to be brought together with better supervision and economy of transport, but will enable certain rooms at present occupied by these departments, to be liberated for administrative and hospital purposes, for which no other space is available. The construction of a new Maternity Building and Ante-Natal Clinic has for some time received the consideration of the Committee. The suite of wards known as the "Old Corridor" is not suitable for modernisation, and at some future date will require replacement by modern buildings.

Alder Hey Children's Hospital, although built to receive infirm adults, had the advantage of being a modern building completed during the war and has now an Admission and Continuation Department, with cubicles in the upper two storeys; operating theatres, dispensary, and X-ray rooms have also been built. The construction of an extension of the Nurses Home, finished early in 1937, completed the major part of the re-organisation of this hospital, which is one of the finest children's hospitals in this country. A building for the replacement of the splint shop and certain other small extensions to replace temporary wooden buildings were completed during 1938, together with a small enlargement of the Continuation Department. A new building housing the laboratory and an extension of the X-ray department has been approved during 1938 and is now under construction.

The four hospitals just discussed are for the reception mainly of acute cases and those chronic or incurable cases which require considerable medical or nursing care. Chronic sick, bed-ridden infirm, and senile patients are received in the two Institutions, at Belmont Road and Kirkdale Homes. The greater longevity of the population, referred to on page 11, leads to a need for 50 or 60 additional beds per annum for this class of patient, and the conversion of one block from the occupation by healthy adults to that of the sick is requisite to meet

this extending need. During 1938 the female " F " and " G " blocks at Belmont Road were plastered. At Kirkdale Homes the ground floor and top floor of the Rumney Road Block have been plastered and constitute a greatly improved unit. Economy will be effected in this way as the painting of plastered walls requires to be done at longer intervals than in the case of brick walls.

Belmont Road Institution, having been constructed for healthy adults, with 3-storey blocks and only a ground floor corridor is unsuitable for conversion to general hospital purposes, but is sufficiently capable of adaptations for bed-ridden patients. The system of heating is from four separate groups of boilers, and the wards and corridors are mainly unheated or inadequately heated. The heating will require to be entirely overhauled, and a scheme for this purpose was prepared by a consulting engineer and referred to the Ministry of Health during 1936.

Kirkdale Homes consists of a main building and annexes of varying age and adaptability. The Rumney Road Block is the most modern in construction and is well adapted for senile and defective persons. With a moderate amount of alteration the rest of the Homes can be rendered suitable for the ageing men and women received there. There are, in the West Block, a number of epileptic men who would be more suitably housed in rural surroundings. The kitchens have been modernised and more day-rooms have been provided. A new mortuary has been constructed.

The Isolation Hospitals, unlike the Transferred Institutions, are used for the purpose for which they were constructed and do not require the same amount of adaptation. Owing to the shortening of the hours of nurses, extensions in the Nurses' Homes were needed as in the General Hospitals. At the Fazakerley group a joint building to house the night nurses in the Isolation Hospital, Annexe, and Sanatorium, is now completed. At Mill Lane Hospital an extension has now been carried out. At the City Hospital North there was no room for extension, but an adaptation of an existing building enabled 8 additional bedrooms to be provided.

The main necessity for the Isolation Hospitals has been the provision of cubicles for the separate isolation of patients suffering from

certain combinations of infections, and of other patients requiring separation. Such provision permits of the fullest use of existing wards. Four blocks of cubicles, each containing sixteen individual cubicles, were completed early in 1938. Certain temporary buildings providing recreational and occupational facilities for the Sanatorium patients had to be removed, to clear the site, and two buildings were built in or adjacent to the Sanatorium grounds for men and women respectively.

Sparrow Hall Isolation Hospital, with 160 beds, was constructed during the war as a semi-permanent building for the reception of smallpox patients. The making of the East Lancashire Road and the building of the Norris Green Housing Estate has rendered its location entirely unsuitable for this purpose and the " high-rib " style of building gives a relatively short life. It is now empty but has been found suitable for use for storage purposes. The Fazakerley Annexe Hospital is suitably placed for the reception of smallpox should an epidemic occur.

The Fazakerley Annexe Hospital Wards with one exception are built of wood and should be replaced by buildings of fireproof construction. Some years ago one of these wards was completely destroyed by fire in a period of little more than half an hour. One of these wards will be replaced by a permanent building now nearing completion.

Two of the three Sanatoria, namely, Fazakerley Sanatorium and Cleaver Sanatorium, were built for the purpose and the pavilion type of construction at Broadgreen Sanatorium renders the buildings suitable for its present use. The construction of a dining room for patients and the re-organisation of the laundry and power plant have already been effected and have led to economy in working. An extension of the Nurses' Home is now completed.

The Cleaver Sanatorium, being of modern construction, has required little alteration. An extension of the Nurses' Home, and the building of a rest-room are now completed.

At Fazakerley Sanatorium, the principal need has been the building of a treatment block to provide for the advances in thoracic surgery which have been made since the Sanatorium was built. The treatment

block now completed will be entirely suitable for this purpose. The kitchen was modernised during 1937. For many years, cases of pulmonary and surgical tuberculosis have been housed in two wards in the Isolation Hospital, but these wards are no longer required for this purpose and are available for the reception of cases of infectious disease. This has greatly facilitated the closure of Sparrow Hall Hospital to which reference has previously been made.

It may be pointed out that the advances in the treatment of tuberculosis in the last twenty-five years have permitted cure or very great alleviation in cases that would formerly have been regarded as progressive in type. Consequently the period of stay in hospital or sanatorium has become considerably extended in these patients. A proportion of patients can be rehabilitated by working under colony conditions for which the extensive grounds at Fazakerley provide adequate space.

Laundries.

The greater resort to the hospitals leads to greater demands upon the laundries. A more rapid turnover of the patients leads to an increase in the washing of bed linen even without any increase in the number of beds occupied. There is also an increase in the staff laundry owing to increases in the nursing and clinic staffs, and the greater use of overalls for bed-isolation and cubicle nursing has a similar effect. Increased admissions of bed-ridden and incontinent old people follow upon the increasing longevity of the population. All these influences have affected the work of the laundries, and for certain purposes special plant is required.

An efficient laundry must be of adequate size to justify the complete equipment of machines. The flow should be continuous and unidirectional from the point of entry of the soiled linen to the sorting room. The hydro-extractors should be proportional to the number of articles washed and should be capable of revolving at a speed sufficient to effect such a reduction in the water-content as to reduce the load upon the dryers and calenders. The calenders should be adequate in size and drying power to dry the clothing in one passage without any reversal of the flow. Some classification of the laundries in relation to the articles washed is desirable.

During 1934 it was decided that the washing from Mill Road Infirmary should go to Walton Hospital and that from Kirkdale Homes to Belmont Road Institution in order that materials of comparable nature should be washed together. This alteration is not, however, possible without complete reorganisation of the Belmont Road Institution laundry, which is, in any case, required as it is badly arranged and largely equipped with out-of-date machines.

The efficiency of the several laundries is, other things being equal, reflected in the prices per 1,000 articles washed. The character of the washing, however, such as the size and nature of the articles washed, varies considerably from one laundry to another. The retention of out-of-date machinery in the laundries probably accounts for much of the differences in cost and is very uneconomical. Walton Hospital laundry is probably the best equipped and as the number of articles washed approaches five million per annum, this is reflected in the cost per 1,000 articles. The laundry at Broadgreen Sanatorium is structurally adequate for a much larger turnover than is actually dealt with; with some further replacements it should become a very efficient unit, and should eventually be capable of washing 1,500,000 articles per annum.

The reorganisation of the laundry at Smithdown Road at a cost of about £11,530, is now completed. It is now equipped throughout with modern machinery with a continuous and unidirectional flow from entrance to exit thus establishing an efficient unit.

The reorganisation of the Belmont Road Laundry is becoming increasingly necessary, and can now be put in hand as the re-equipment of the Smithdown Road Hospital laundry is completed.

At the Fazakerley Isolation Hospital the laundry machinery has now been brought up to a modern standard after considerable replacement The laundry as modernised is now able to receive the washing from the Sanatorium and the Fazakerley Annexe. An extension of the receiving rooms is needed in order to obtain a steady flow throughout the unit.

The provision of steam-presses in a number of these laundries has improved the standard of the work and has increased the output.

The following table shows the existing and future capacity of the City Hospital laundries and their average weekly load:—

	Present Average User.	Present Weekly Capacity.	Maximum Capacity after Extension.
Walton Hospital	98,000	110,000	112,000
Smithdown Road Hospital	43,000	45,000	55,000
Belmont Road Institution	36,000	51,000	65,000
Broadgreen Sanatorium	20,000	20,000	35,000
Fazakerley Isolation Hospital	26,000	27,000	34,000
Total	223,000	253,000	301,000

It would appear from the figures that when the Belmont Road Laundry reorganisation is being carried out, it will be possible to carry the load among the other laundries.

Tuberculosis.

There was an increase in the number of cases of tuberculosis admitted into the Sanatoria during 1938 compared with the preceding year, the numbers admitted rising from 669 in 1937 to 721 in 1938. The number of cases of tuberculosis admitted to the Transferred Hospitals shows a reduction of 99 compared with 1937. For several years past there has been a decrease in the total admissions of tuberculous patients. This reduction in admissions corresponds to a genuine reduction in the number of cases and of deaths. The reduction in non-pulmonary tuberculosis, especially in children, is particularly marked and has permitted a concentration of these cases at Alder Hey Hospital; a certain number of glandular and abdominal cases have been received into the Cleaver Sanatorium. At the end of 1937 the children's block at Fazakerley was freed for the reception of adult cases. One of the two wards at Broadgreen Sanatorium, formerly occupied by children, has been released for the use of adults.

The number of pulmonary cases in adults also shows some reduction in admissions in recent years corresponding with the reduction in numbers of notified cases. The diminution in numbers received has been

offset by an increase in the average length of stay. Contrary to what holds good in the General Hospitals this increased duration of stay points to greater efficiency in the methods of treatment available and given. The greater use of collapse therapy methods such as the induction of artificial pneumothorax, has alleviated cases formerly intractable; the prolongation of stay is an indication of prolongation of life in many cases. The direction of progress on these lines is towards the greater use of surgical methods. The completion of the treatment block at Fazakerley Sanatorium containing a new operating theatre and two small wards adjacent to the X-ray building has enabled these methods to be used under the most favourable conditions. At Broadgreen Sanatorium the corridors between the operating theatre and the nearest male and female wards were covered in early in 1938 in order to permit patients to be treated surgically without undue risk. An extension of the verandahs has slightly increased the accommodation.

One of the most distressing conditions is the form of tuberculosis of the skin known as lupus. The opening of the Lupus Clinic at Belmont Road Institution provided adequate and efficient treatment available for the patients suffering from this condition. Early cases of lupus can now be cured without deformity, and the progress of old-standing cases completely arrested in a considerable number of instances. The treatment is prolonged in old-standing cases.

At Cleaver Sanatorium the building of a rest-room where the children can lie down during the middle of the day is now completed. It provides for about 120 children and also enables the children to have open-air recreation in wet weather.

CLASSIFICATION OF IN-PATIENTS WHO WERE DISCHARGED FROM OR WHO DIED IN TRANSFERRED INSTITUTIONS DURING THE YEAR ENDED 31st DECEMBER, 1938.

Disease Groups.	Smithdown Road.		Walton.		Mill Road.		Alder Hey.		Olive Mount.		Kirkdale Homes.		Belmont Road.		Seafield.		Cleaver Sanatorium.		1938. Total.		1938. Grand Total	1937 Total		1937 Grand Total	
	Dis-charged.	Died.	Dis-charged.	Died.	Dis-charged.	Died.	Dis-charged.	Died.	Dis-charged.	Died.	Dis-charged.	Died.	Dis-charged.	Died.	Dis-charged.	Died.	Dis-charged.	Died.	Dis-charged	Died		Dis-charged.	Died		
(1) Acute Infectious Disease	82	1	485	14	51	9	447	47	737	—	—	—	95	7	1	—	7	—	1,905	78	1,983	1,903	130	2,033	(1)
(2) Influenza	23	1	94	—	55	—	18	3	—	—	7	—	37	—	—	—	—	—	234	4	238	451	17	468	(2)
(3) Tuberculosis—																									
(a) Pulmonary	43	6	337	237	82	10	35	6	—	—	—	1	5	—	1	—	76	2	579	262	841	556	245	801	(3a)
(b) Non-Pulmonary	10	1	55	21	24	3	125	39	—	—	—	—	11	—	—	—	61	—	286	64	350	321	74	395	(3b)
(4) Malignant Disease	109	130	428	387	152	81	—	1	—	—	3	2	7	21	—	—	—	—	699	622	1,321	600	554	1,154	(4)
(5) Rheumatism—																									
(a) Acute Rheumatism (Rheumatic Fever) together with sub-acute Rheumatism and Chorea	143	—	195	1	89	—	625	1	—	—	—	—	6	—	—	—	—	—	1,058	2	1,060	732	5	737	(5a)
(b) Non-articular manifestations of so-called "Rheumatism" (muscular rheumatism, fibrositis, lumbago and sciatica)	56	—	305	1	77	—	2	—	—	—	—	—	13	—	—	—	—	—	453	1	454	467	1	468	(5b)
(c) Chronic Arthritis	99	—	37	—	125	3	—	—	—	—	—	—	10	8	—	—	—	—	271	11	282	311	4	315	(5c)
(6) Venereal Disease	39	—	73	2	422	4	18	—	—	—	—	—	17	4	—	—	—	—	569	10	579	549	15	564	(6)
(7) Puerperal Pyrexia, including cases classified as Puerperal Fever—																									
(a) Women confined in hospital	1	1	49	3	16	—	—	—	—	—	—	—	—	—	—	—	—	—	66	4	70	70	2	72	(7a)
(b) Admitted from outside	—	—	17	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—	20	—	20	11	4	15	(7b)
(8) Other diseases and accidents connected with Pregnancy and Childbirth	564	—	1,026	8	780	1	—	—	—	—	—	—	—	—	—	—	—	—	2,370	9	2,379	2,231	16	2,247	(8)
(9) Mental Diseases—																									
(a) Senile Dementia	2	—	12	—	4	—	—	—	—	—	21	59	38	59	—	—	—	—	77	118	195	114	215	329	(9a)
(b) Other	918	1	48	—	48	2	—	—	—	—	—	6	29	—	1	—	—	—	1,044	9	1,053	1,125	17	1,142	(9b)
(10) Senile Decay	73	7	50	6	32	—	—	—	—	—	99	20	97	55	—	—	—	—	351	88	439	387	115	502	(10)
(11) Accidental Injury and Violence	596	17	1,129	73	727	34	657	7	1	—	7	1	46	—	2	—	—	—	3,165	132	3,297	2,964	100	3,064	(11)
In respect of cases not included above :—																									
(12) Disease of the Nervous System and Sense Organs	289	136	743	142	284	109	794	107	—	4	87	25	111	86	—	—	—	—	2,308	609	2,917	2,525	592	3,117	(12)
(13) ,, ,, Respiratory System	646	162	1,185	286	822	125	2,103	232	7	58	37	23	162	67	—	—	—	—	4,962	953	5,915	5,216	1,278	6,494	(13)
(14) ,, ,, Circulatory System	434	473	1,318	412	622	192	283	45	—	—	1	28	223	335	—	—	—	—	2,881	1,485	4,366	2,382	1,744	4,126	(14)
(15) ,, ,, Digestive System	1,351	62	1,982	89	1,319	58	2,022	33	—	2	—	—	26	10	—	—	—	—	6,700	254	6,954	7,105	259	7,364	(15)
(16) ,, ,, Genito-urinary System	637	67	1,124	110	881	54	488	13	—	—	—	—	7	8	—	—	—	—	3,137	252	3,389	2,953	226	3,179	(16)
(17) ,, ,, Skin	180	1	487	7	250	6	375	—	—	—	1	—	3,495	16	1	—	—	—	4,789	30	4,819	4,763	12	4,775	(17)
(18) Other Diseases	459	50	663	136	658	88	1,095	110	2	1	15	—	34	7	2	—	—	—	2,919	392	3,311	2,914	405	3,319	(18)
(19) Mothers and Infants discharged from Maternity Wards and not included in above figures—																									
(a) Mothers	1,756	—	2,861	—	1,568	—	—	—	—	—	—	—	—	—	—	—	—	—	6,185	—	6,185	6,316	—	6,316	(19a)
(b) Infants	1,652	—	2,683	—	1,492	—	—	—	—	—	—	—	—	—	—	—	—	—	5,827	—	5,827	5,789	—	5,789	(19b)
(20) Any persons not falling under any of the above headings	2	—	344	—	54	—	—	—	568	—	—	—	—	—	2	—	—	—	970	—	970	3,641	7	3,648	(20)
Totals	10,155	1,116	17,730	1,935	10,637	779	9,087	644	1,315	65	278	165	4,469	683	10	—	144	2	53,825	5,389	59,214	56,396	6,037	62,433	

SANITATION

SANITARY ADMINISTRATION.

During the year the district sanitary inspectors made 155,046 inspections and visits for the investigation and suppression of nuisances.

Complaints in many cases were made at the department, only after repeated requests addressed to the persons causing or permitting the nuisance, or to the owner or agents of property, had been ignored. A great deal of the time of the inspectors is taken up by these special investigations.

Requests to examine important public buildings and offices, as well as dwelling-houses of high rateable value are numerous, and the application of the smoke test has in many cases brought to light defects in the drainage system of such premises.

During the year, 21,192 complaints of nuisances were received, as compared with 18,928 the previous year.

The number of notices served for the abatement of nuisances was 27,150 informal, and 13,127 statutory, 53 notices being served for the abolition of ashpits, and 3,780 for the provision of dust bins.

In 87 cases legal proceedings were instituted at the City Court for failing to comply with notices served for the department under the Public Health Acts.

Departmental References.

The co-operation which the Public Health Department receives from other departments of the Corporation is fully appreciated, and as a result many sanitary defects are brought to notice, and at once dealt with by the department. Were it not for this early intimation it is possible that defects might remain undiscovered until such time as the district inspector visited the premises in the course of house-to-house inspection.

References from other Departments.

From the City Engineer	270
,, ,, Water Engineer	2,630
,, ,, Building Surveyor	104
,, ,, Education Department (suspected infection in school children)	3,582
Inter-Departmental References	511

The officers of the Health Department co-operate with other departments by referring to them matters which are outside the scope of the Health Department, such as waste of water, choked street gullies, defective street and passage paving, dangerous walls, floors and roofs.

References to other Depar'ments—

To the City Engineer	1,388
,, ,, Building Surveyor	2,463
,, ,, Water Engineer	1,819
,, ,, Education Department	30
Inter-Departmental references	231
To other Departments	135

Infected Houses.

The following table shows the number of houses visited where notifiable infectious diseases have occurred, with the number of visits made by sanitary inspectors to these houses, and to houses where cases of non-notifiable infectious diseases have been reported to the Health Department by the Education Department:—

Number of investigations relating to cases of infectious diseases	12,392
,, ,, inquiries re contacts in respect of cases of infectious disease	367
,, ,, visits to infected houses	12,954
,, ,, ,, ,, phthisis cases	974
,, ,, inquiries relating to suspected smallpox contacts	47

Closet Accommodation.

During the year 62 privies and 24 pails on farms and outlying houses in the city were abolished, but there still remain 110 privies and 81 pails where sewers are not reasonably available.

Wards.	No. of Houses.	No. of Farms.	No. of Factories, Workshops, Schools, etc.	No. of Privies.	No. of Pails.	Drainage of Premises.		
						Into Cess-pools.	Into Becks, etc.	Into Sewer.
Childwall	8	—	—	—	8	2	—	—
Croxteth	27	4	—	29	1	10	11	3
Fazakerley ...	21	3	2	25	29	17	1	1
Garston	1	—	—	1	—	—	1	—
Knotty Ash	3	—	—	3	—	1	—	—
Sefton Park W. ...	1	—	—	—	1	—	—	—
Speke	45	11	1	26	20	19	11	15
Wavertree	2	—	—	—	2	—	—	—
Woolton	47	4	—	26	20	2	13	1
Totals ...	155	22	3	110	81	51	37	20

Factories, Workshops and Workplaces Inspection.
Factory and Workshop Act, 1901.
Factories Act, 1937.

Factories, Workshops and Workplaces.—All factories, workshops and workplaces are visited by six inspectors appointed under the Act, the various premises being grouped in districts so as to secure the maximum number of visits in the minimum time.

The Factories Act, 1937, which came into force on the 1st July, 1938, superseded the Act of 1901, in consequence of which the duties of the District Council with respect to Factories were considerably augmented and now embrace *inter alia* the following matters:—

The provisions of Part 1 of the Act relating to cleanliness, overcrowding, temperature, ventilation, drainage of floors, sanitary conveniences, and any orders or regulations made thereunder.

The carrying out in the year beginning at the date of the commencement of the Act, and in every fifth succeeding year, thereafter, an examination of every basement bakehouse in respect of which a certificate of suitability has been issued.

The keeping of a register of all factories situate within their district with respect to which the duty of enforcing any of the said provisions is imposed upon them.

Register of Factories, Section 8 (3)	
Factories on the Register at the end of the year.	Number.
With Mechanical Power (including Bakehouses)	2,776
Without Mechanical Power (including Bakehouses)	3,016
Total	5,792
Register of Workplaces (including Offices).	**Number.**
Workplaces on Register at the end of the year	2,428

Visits, Special—Factories with mechanical power	654
Factories without mechanical power	359
Workplaces	107
Re-visits	506
Visits, Ordinary—Factories with mechanical power	1,326
Factories without mechanical power	2,100
Workplaces	567
Re-visits	1,623
Factories discontinued and removed from Register	295
Factories measured and added to Register	240

Notices.

Number of Notices—Informal	708
Statutory	167
Informal other premises	Nil
Number of Prosecutions—Occupiers	Nil
Owners	Nil

Home Office Form 572.

1.—*Inspections for purposes of provisions as to health.*

Including Inspections made by Sanitary Inspectors.

Premises. (1)	Number of Inspections. (2)	Written Notices. (3)	Occupiers Prosecuted. (4)
FACTORIES with mechanical power	4,046	570	Nil
FACTORIES without mechanical power	2,053	239	Nil
OTHER PREMISES under the Act (including works of building and engineering construction, but not including outworkers' premises) ... ... (Electrical stations should be reckoned as Factories)	1,143	66	Nil
TOTAL ...	7,242	875	Nil

2. *Defects found.*

Particulars. (1)	Number of Defects. Found. (2)	Remedied. (3)	Referred to H.M. Inspector. (4)	Number of defects in respect of which prosecutions were instituted. (5)
Want of Cleanliness (S.1)	294	282	—	—
Overcrowding (S.2)	3	3	—	—
Unreasonable Temperature (S.3) ...	28	27	1	—
Inadequate Ventilation (S.4)	6	6	2	—
Ineffective drainage of floors (S.6) ...	—	—	—	—
Sanitary Conveniences (S.7)—				
Insufficient	74	64	—	—
Unsuitable or defective	729	679	—	—
Not separate for sexes	21	18	—	—
Other Offences	499	481	22	—
TOTAL	1,654	1,560	25	—

Outworkers, Sections 110 and 111.

In accordance with the provisions of the Act, outworkers returns are received twice yearly, and the premises referred to in the returns are visited to ascertain whether work is carried on in any place which is in the opinion of the District Council injurious or dangerous to the health of the persons employed therein:—

The following statement shows the work undertaken during the year:—

Employers failing to keep list	Nil
Notices served for failing to keep or send list	21
Prosecutions for failing to send in list	Nil
Number of outworkers returns received	156
Number of returns indicating no outworkers employed	17
Number of returns referred to M.O.H. of districts outside City	6
Number of visits to premises by Factory Inspectors	91
Number of instances of employment in unwholesome premises	Nil
Number of Notices served	Nil
Matters referred to H.M. Inspector of Factories:—	
Failing to affix abstract of the Factories Act, 1937 (Section 114)... ...	14
Action taken in matters referred by H.M. Inspectors as remediable under the Public Health Act, 1936, and the Factories Act, 1937 (Notified by H.M. Inspectors. Reports of Action taken sent to H.M. Inspector) ...	122
Other reports to H.M. Inspector	11

Outwork in Unwholesome Premises.

(Section 108 of Act of 1901; Section 111 of Act of 1937.)

Nature of Work. (1)	Instances. (2)	Notices Served. (3)	Prosecutions. (4)
Wearing Apparel—			
Making, etc.	—	—	—
Cleaning and washing	—	—	—
Household linen	—	—	—
Lace, lace curtains and nets	—	—	—
Curtains and furniture hangings	—	—	—
Furniture and upholstery	—	—	—
Electro-plate	—	—	—
File making	—	—	—
Brass and brass articles	—	—	—
Fur pulling	—	—	—
Carried forward ...	—	—	—

Nature of Work. (1)	Instances. (2)	Notices served. (3)	Prosecutions. (4)
Brought forward ...	—	—	—
Cables and chains	—	—	—
Anchors and grapnels	—	—	—
Cart gear	—	—	—
Locks, latches and keys	—	—	—
Umbrellas, etc.	—	—	—
Artificial flowers	—	—	—
Nets (other than wire nets)	—	—	—
Tents	—	—	—
Sacks	—	—	—
Racquets and tennis balls	—	—	—
Paper, etc., boxes, paper bags	—	—	—
Brush making	—	—	—
Pea picking	—	—	—
Feather sorting	—	—	—
Carding, etc., of buttons, etc.	—	—	—
Stuffed toys	—	—	—
Basket making	—	—	—
Chocolates and sweetmeats	—	—	—
Cosaques, Christmas crackers	—	—	—
Christmas stockings, etc.	—	—	—
Textile weaving	—	—	—
Lampshades	—	—	—
TOTAL	—	—	—

Rag Flock Acts, 1911 and 1928.

There are two factories in which rag flock is manufactured in this district. Eight visits have been made and 13 samples of rag flock have been taken, which were in accordance with the standard of cleanliness required by the rag flock regulations. 131 visits have been made to premises where rag flock was used, 85 samples were taken, and with the exception of 3, were in accordance with the regulations. In each of the 3 cases, the offender was cautioned.

The reports of the City Analyst on the 85 samples of rag flock submitted for analysis used in upholstery and bedding were as follows:—

5	contained	under 5											
24	,,	5	and	under	10								
27	,,	10	,,	,,	15	,,	,,	,,	,,	,,	,,	,,	,,
13	,,	15	,,	,,	20	,,	,,	,,	,,	,,	,,	,,	,,
6	,,	20	,,	,,	25	,,	,,	,,	,,	,,	,,	,,	,,
7	,,	25	,,	,,	30	,,	,,	,,	,,	,,	,,	,,	,,
3	,,			over	30	,,	,,	,,	,,	,,	,,	,,	,,

Four samples of cotton flock and one sample of brown coir fibre fillings were submitted for analysis and found to contain from 58 to 210 parts of chlorine per 100,000 parts of rag flock. These materials are not required to conform with the Rag Flock Regulations, 1912.

Three made-up pillows (rag flock, feather and millpuff) were purchased and submitted for analysis and found to contain 22, 403 and 30 parts of chlorine per 100,000 parts respectively.

Bakehouses.

The number of bakehouses in use at the end of the year was 424, of which 221 were bakehouses without mechanical power, 19 being underground, and 203 bakehouses with mechanical power, 38 being underground. Since the passing of the Factory and Workshops Act, 1901, 343 underground bakehouses have been closed.

During the year, 1949 visits were paid to bakehouses.

Number of occasions on which bakehouses were found incorrect	116
Number of notices (informal)	116
,, ,, (statutory)	22

Bakehouses.	Defects.	
	Reported.	Remedied.
Walls and ceilings requiring cleansing	1	1
Walls and ceilings requiring limewashing	74	62
Walls and ceilings requiring painting	—	—
Sanitary Accommodation—		
Sanitary accommodation insufficient	—	—
Want of separate accommodation	4	6
Want of screens, doors, etc.	11	13
Want of light	—	—
Dirty floors, water-closet basins, seats, walls, etc.	12	12
Number of urinals incorrect	—	—
Number of premises found infested with rats	—	—
Number of premises found infested with flies	—	—
Number of premises found infested with cockroaches	1	1
Storage of refuse incorrect...	14	13
Other Nuisances	142	175
TOTAL	259	283

It will be noted that the number of items remedied is greater than the number reported; this is due to certain matters having received attention during 1938, which were reported in 1937 and included in the Annual Report for that year.

Restaurants and Café Kitchens.

All kitchens in connection with cafés and restaurants are regularly visited, particular attention being paid to the cleanliness of the premises and of the workers employed in the kitchen. There were 357 in use at the end of the year.

During the year, 1,525 visits were paid to restaurant and café kitchens.

Number of occasions on which restaurants and café kitchens were found incorrect	122
Number of notices (informal)	122
Number of notices (statutory)	52

Restaurants and Café Kitchens.	Defects.	
	Reported.	Remedied.
Want of light	—	—
Want of washing facilities	—	—
Sanitary Accommodation—		
Sanitary accommodation insufficient	—	—
Want of separate accommodation	3	3
Want of screens, doors, etc.	8	10
Want of light	—	—
Dirty floors, water-closet basins, seats, walls, etc.	4	4
Number of urinals incorrect	—	—
Section 72, *Public Health Act*, 1925—		
2. (*a*) Sanitary conveniences incorrect	3	2
(*b*) Cistern water supply incorrect	—	—
(*c*) Ventilation of drain incorrect	—	—
(*d*) Rooms used as sleeping places	—	—
(*e*) Ventilation of rooms incorrect	2	1
3. (*a*) Walls, and ceilings of room requiring limewashing cleansing, etc.	55	54
(*b*) Accumulations or deposits of refuse in rooms	8	8
4. Unclean condition of articles, apparatus or utensils ...	1	1
Number of trade refuse bins defective	12	17
Number of Ashbins defective	3	3
Number of premises found infested with rats	2	2
Number of premises found infested with steam flies	1	1
Number of premises found infested with cockroaches	—	—
Number of other nuisances	141	124
TOTAL	243	230

Licensed Premises.

SECTION 72, PUBLIC HEALTH ACT, 1925.

1,159 visits were made to licensed premises, and it was found that the conditions under which beer is stored and sold are satisfactory on the whole. Measures have been taken to maintain a good standard of cleanliness, the result of inspections being as follows:—

	Reported.	Remedied.
Beer Cellars.		
Defective condition of paving	34	35
Defective condition of ceilings	8	2
Defective drainage	2	1
Defective ventilation	4	3
Unclean condition of walls	13	19
Unclean condition of ceilings	12	20
Unclean condition of pipes	3	6
Unsatisfactory condition of vessels used for waste beer ...	6	20
Rat runs	2	—
Clarification of beer incorrect	1	4
Accumulations of refuse	5	5
Defective or unsuitable traps	6	2
Defective condition of beer drop	1	—
Bars.		
Defective condition of drip sinks	2	5
Defective condition of drain boards	5	7
Defective condition of waste pipes	19	27
Defective condition of walls	4	4
Unclean condition of pumps	—	5
Unclean condition of cupboards	1	1
Facilities for cleansing of glasses insufficient	20	15
Unclean condition of walls and ceiling	1	—
Water-closet communicates directly with food store	1	—
TOTAL	150	181

It will be noted that the number of items remedied is greater than those reported; this is due to certain matters having received attention during 1938, which were reported in 1937 and included in the Annual Report for that year.

SECTION 89, PUBLIC HEALTH ACT, 1936.

Under this Section a local authority may by notice require the owner or occupier of any inn, public-house, beer-house, refreshment-house or place of public entertainment to provide and maintain in a suitable position such number of sanitary conveniences for the use of persons frequenting the premises as may be reasonable.

During the year notices have been issued in respect of 178 such premises, as follows:—

	Defects.	In Progress	Abated.
Premises where there is no sanitary accommodation for males	10	2	—
Premises where there is no sanitary accommodation for females	106	24	2
No flushing to urinals	41	5	10
Flush to urinals defective	4	—	3
Screening defective	13	2	4
Intervening space incorrect	14	2	1
Unsuitable or insanitary urinals	62	14	5
Approaches incorrect	1	—	—
Defective brickwork of urinals	1	—	—
No urinal accommodation	6	—	—
Additional urinal accommodation required	2	—	—
Limewashing of conveniences required	1	—	1
Ventilation of conveniences incorrect	3	1	1
Sanitary accommodation for females inadequate ...	1	—	—
Lighting of w.c. incorrect	3	—	1
Defective flush to w.c.	2	—	2
Unsuitable types of w.c.	2	—	—
Defective w.c. seats	3	—	3
Defective w.c. roofs	1	—	—
Chain pulls required to w.c.	2	—	1
Defective w.c. door	1	—	—
Defective w.c. flushpipes	1	—	—
Defective w.c. seat bearers	1	—	1
Choked w.c. drain	1	—	1
Foul w.c. basin	1	—	1
Defective w.c. cistern	1	—	1
	285	50	38

Shops Acts, 1912-1936.

By means of systematic visitation of shops throughout the city, effective administration of the Shops Acts is secured, and the necessary information obtained for the purpose of keeping up to date a register of all shops in the city. The majority of the shops in the city are closed for the weekly half-holiday at 1 p.m. on Wednesday, except in the central area where Saturday is the closing day for most shops.

In connection with the closing of shops on the weekly half-holiday, the City Council has made 20 half-holiday orders, and in addition 13 closing orders are in force with regard to evening closing. Regular visits on the weekly half-holiday, and in the evening, are made to ensure that the provisions of the Shops Acts and the various Closing Orders made thereunder are complied with.

In addition to the above, orders have been made by the City Council suspending the closing hours on the Thursday preceding Good Friday each year, for the retail trade or business of:—

Fish, game and poultry dealers;

Fruit and vegetable dealers;

Dealers in bread and flour;

Dealers in groceries and provisions.

The closing hours of all shops in the City were suspended on Saturday, 31st December.

During the year one additional closing order was made in respect to the retail trade or business of a furniture dealer.

In accordance with the requirements of the Public Health Act, 1936, Section 205, a female Inspector, in addition to her duties under the Shops Acts, has made enquiries with reference to "prohibition of the employment of women after childbirth", and in this connection 193 visits have been made to factories and workshops within the city. In each case the female overseer was interviewed and, as a result of these visits, it may be anticipated that every precaution will be taken to see that the provisions of the Act are carried out.

Shops Act, 1934.

The provisons of the Act relating to the employment of shop workers have been effectually applied during the course of routine visitation of shops, and it has been ascertained that the conditions of employment have improved as a result, in respect both to the hours of employment of young persons, and the arrangements for the health and comfort of shop workers, including ventilation, heating, sanitary conveniences, lighting, washing facilities, and the provision of facilities for the taking of meals.

Owners and occupiers of shops generally are desirous of taking reasonable measures to comply with the requirements of the Act, and are ready to obtain and act upon the advice given by the Shops Inspectors.

The normal maximum working hours for young persons are 48 per week, but in many instances the actual hours worked do not reach 48 per week. It has also been found that only a small proportion of young persons have been required to work the overtime permitted by the Act. By means of careful enquiry as to records of hours of employment, errors due to various causes are checked and an improvement brought about.

Visits are made by inspectors after 10 p.m., and before 5 a.m., to ascertain that the restriction on night employment and the granting of eleven consecutive hours' rest are complied with.

Continued satisfactory progress has been made with regard to the works required by notices served under Section 10, dealing with arrangements for the health and comfort of shop workers, and shopkeepers, and owners of premises generally have been ready to comply with the requirements of this Section.

In cases where accommodation is restricted or where special circumstances exist, provision is made under Section 10 to enable a certificate

of exemption to be granted by the City Council, provided that other suitable arrangements are conveniently available.

The number of applications for exemption dealt with since the Act came into operation on the 30th December, 1934, is 305, and those dealt with during the year 1938 number 51. Of this number 42 were approved, the remaining 9 being disapproved.

In all cases careful enquiry is made to ensure that the alternative arrangements are satisfactorily made and maintained.

Shops (Sunday Trading Restriction) Act, 1936.

Special provision is made for persons of the Jewish religion, who have a conscientious objection to carrying on trade or business on the Jewish Sabbath, to have their shops registered with the Local Authority for the purpose of keeping open on Sunday, provided they submit an application together with a statutory declaration in the manner prescribed by the Act.

In one instance the registration has been cancelled by the occupier, and two other shops have also become vacant.

The administration of the above Shops Act affecting Sunday trading is effectually carried out by means of systematic visitation each Sunday, and for this purpose Inspectors are regularly engaged throughout the city, the duties being arranged so that shops may be visited during the whole day.

There are approximately 4,000 shops open on Sunday, comprising mainly, sweets, tobacco and newsagents' shops, and general dealers' shops, and upon the Act becoming operative, every shop in the city open on Sunday was specially visited for the purpose of advising the occupiers, as to the Shops Acts generally, and the Shops (Sunday Trading Restriction) Act, 1936, in particular, and it has been found that shopkeepers generally are trying to carry out the requirements of these enactments.

Particulars of Visits and Inspections.

Special Complaints.

Closing hours	326
Closing on Sunday	107
Closing on Jewish Sabbath	6
Employment of persons on Sunday ...	28
Assistants' half-holiday	46
Intervals for meals	15
Seats for female assistants	1
Employment of young persons	207
Ventilation	9
Lighting	—
Temperature	3
Washing facilities	45
Facilities for taking meals	2
Sanitary conveniences	267

Registration.

Retail shops visited	4,631
Assistants employed.	
Young persons—Male	1,629
Female	981
Adults—Male	1,971
Female	1,929
Wholesale shops visited	9
Young persons employed—Male... ...	12
Female ...	5

Visits re Half-Holiday Closing.

Visits to shops after 1 p.m. ...	120,785

Visits re Evening Closing.

Visits to shops after 7 p.m.	25,523
Visits to shops after 8 p.m.	52,549
Visits to shops after 9 p.m.	42,434
Visits to shops after 9.30 p.m.	9,089
Visits to shops after 10 p.m.	2,805

Visits re Sunday Closing.

Visits to shops on Sunday	22,768

Re-visits (General).

Closing hours and notices	195
Sunday closing and notices	416
Sunday employment of persons	34
Assistants' statutory half-holiday and notice	185
Compensatory holidays	129
Intervals for meals	6
Seats for female assistants	13
Employment of young persons	98
Notices—Shops Act, 1934	1,190
Welfare arrangements	4,991

Caution Letters.

Offences in shops	533
Offences by street traders	2

Informations.

Half-holiday closing	30
Evening closing	84
Sunday closing	68
Assistants' half-holiday	27
Employment of young persons	270
Employment of persons—Sunday ...	21
Intervals for meals	4

No. of incidental calls	4,331

Public Health Acts.

No. of nuisances reported	525
No. of nuisances abated	490
No. of conveniences limewashed ...	18
No. of informations	—
No. of nuisances outstanding ...	35

Contraventions.

	Reported	Remedied	Outstanding
1912 and 1913 Acts.			
Half-holiday closing	59	59	—
Mixed trades notice	240	240	—
Closing notice (Alt. W.H.H.) ...	65	65	—
Assistants' half-holiday	88	88	—
Intervals for meals	13	13	—
Seats for female assistants ...	86	86	—
Assistants' half-holiday notice	586	586	—
1928 Act.			
Evening closing ...	83	83	—
Mixed trades notice (C.O.)	57	57	—
1934 Act.			
Employment of young persons ...	129	129	—
Record of hours of employment ...	825	825	—
Notices A to K ...	1,482	1,482	—
Ventilation ...	8	8	—
Lighting	8	8	—
Temperature ...	283	209	74
Washing facilities ...	859	744	115
Facilities for taking of meals	54	54	—
Sanitary conveniences ...	1,390	1,133	257
1936 Acts.			
Sunday closing ...	155	155	—
Mixed shops notice (Form 1) ...	204	204	—
Employment of persons on Sunday	9	9	—
Record of Sunday employment ...	39	39	—
Closing Jewish shops on Saturday ...	5	5	—
Employment of persons on Jewish Sabbath	4	4	—
Saturday closing notice	13	13	—
TOTALS ...	6,744	6,298	446

Administration of Shops Acts, 1912-1936. Summary.

No. of shops on register at 31st December, 1938...	22,600
No. of young persons employed in the shops visited	2,610
No. of assistants over 18 years employed in the shops visited	3,900
Total number of inspections (Registration)	4,631
Total number of visits (Evening Closing of Shops)	132,400
Total number of visits (Half-holiday closing)	120,785
Total number of visits to shops on Sundays	22,768
Total number of special complaints	1,062
Total number of reinspections after contraventions	6,911
Total number of incidental calls	4,331
Total number of visits	292,888

Offences.

Nature of Offence.	No. of Contraventions.	No. of Warnings.	Prosecutions.					Amount of	
			No. of Informations.	No. withdrawn	Discharged Cautioned.	Dismissed.	Fined.	Fines.	Costs.
SHOPS ACT, 1912, HALF-HOLIDAY. Prescribed form relating to half holiday of assistants not displayed	586	564	22	—	5	—	17	£7 10 0	£1 0 0
Correct meal times not allowed to assistants	13	12	1	—	—	—	1	10 0	—
Half holiday not allowed to assistants	88	73	15	1	4	—	10	£4 10 0	£0 18 0
Carried forward	687	649	38	1	9	—	28	£12 10 0	£1 18 0

Nature of Offence.	No. of Contraventions.	No. of Warnings.	Prosecutions.					Amount of	
			No. of Informations.	No. withdrawn	Discharged Cautioned.	Dismissed.	Fined.	Fines.	Costs.
Brought forward	687	649	38	1	9	—	28	£12 10 0	£1 18 0
Seats not provided for female assistants	86	86	—	—	—	—	—	—	—
Mixed Trades notice not exhibited	240	240	—	—	—	—	—	—	—
Closing notice (Alt. W.H.H.) not exhibited	65	65	—	—	—	—	—	—	—
Shop open after closing hour on weekly half-holiday	59	32	27	1	12	—	14	£4 17 6	£1 16 0
Hawking on weekly half holiday after hour fixed by Order ...	3	—	3	—	2	—	1	£0 5 0	£0 4 0
CLOSING ORDERS. Notices not displayed in mixed shops after closing hour	57	57	—	—	—	—	—	—	—
SHOPS (HOURS OF CLOSING) ACT, 1928. Shop open after closing hour ...	83	3	80	1	25	—	54	£17 15 0	£5 0 0
Hawking after closing hour ...	7	3	4	2	1	—	1	£0 5 0	£0 4 0
HAIRDRESSERS' AND BARBERS' SHOP (SUNDAY CLOSING)ACT, 1930. Hairdresser carrying on business on Sunday	—	—	—	—	—	—	—	—	—

SHOPS ACT, 1934.									
Excessive hours of employment of young persons	53	24	29	1	1	2	25	£22 15 0	£3 19 6
Hours of employment not recorded	825	732	93	3	5	1	84	£42 15 0	£10 4 9
Not given 11 consecutive hours' rest in 24 hours	99	—	99	1	1	5	92	£84 5 0	£16 8 11
Notices and Abstracts not exhibited	1,482	1,436	46	—	2	—	44	£21 5 0	£0 11 0
Correct intervals for meals and rest not allowed	54	51	3	1	1	—	2	£1 0 0	—
SHOPS (SUNDAY TRADING RESTRICTION) ACT, 1936.									
Shop not closed on Sunday ...	155	92	63	1	20	—	42	£14 5 0	£3 16 0
Jewish shops not closed on Sunday, Sec. 7	5	—	5	2	—	—	3	£0 15 0	—
Mixed shops notice not exhibited ...	204	204	—	—	—	—	—	—	—
Employment of Assistant on Jewish Sabbath	44	1	3	1	—	—	2	£0 10 0	—
Record of Sunday employment not kept	39	21	18	—	1	—	17	£7 0 0	£0 4 0
RETAIL MEAT DEALERS' SHOPS (SUNDAY CLOSING) ACT, 1936.									
Shop not closed on Sunday ...	—	—	—	—	—	—	—	—	—
TOTALS	4,207	3,696	511	15	80	8	409	£230 2 6	£44 6 2

It was found necessary to caution 535 persons by letter for minor infringements of the Acts.

The Officers of the Public Health Department have received valuable assistance from the City Police in carrying out the provisions of the Shops Acts and Orders made thereunder.

Young Persons (Employment) Act, 1938.

This enactment comes into force on the 1st January, 1939, and regulates the hours of employment of persons under the age of 18 years engaged in certain occupations which hitherto have been unregulated, and also amends the Shops Act, 1934, with respect to the hours of employment of persons under 16 years of age.

Part I of the Act applies to young persons who are employed wholly or mainly in one or more of the following occupations:—

(*a*) employment in the collection or delivery of goods, or in any carrying, loading or unloading of goods incidental to the collection or delivery thereof;

(*b*) employment in connection with a business carried on at any premises in carrying messages or running errands, being employment wholly or mainly outside the premises;

(*c*) employment at a residential hotel or club in carrying messages or running errands, or in connection with the reception of guests or members thereat;

(*d*) employment in connection with the business carried on at any premises where a newspaper is published, in carrying messages or running errands;

(*e*) employment at a place of public entertainment or amusement, or at a public swimming bath, bathing place or Turkish bath, in carrying messages or running errands, or in the reception of or attendance upon persons resorting thereto;

(*f*) employment elsewhere than in a private dwelling-house, in the operation of a hoist or lift connected with mechanical power;

(*g*) employment in, or in connection with, the operation of cinematograph apparatus;

(*h*) employment at any premises occupied for the purposes of the business of a laundry, dyeing or cleaning works or other factory, in receiving or despatching goods.

Certain kinds of employment are excepted from the provisions of Part I of the Act, as follows:—

Employment in which the hours are already regulated by the Factories, Mines or Shops Acts; employment in, or in connection with, agriculture, and employment in a ship.

The total number of working hours of young persons (excluding intervals for meals and rest) shall not exceed 48 in any one week, whilst overtime shall not exceed a total of 50 hours in any one year and not more than 6 hours in any one week. Overtime shall not extend to more than 12 weeks in any one year, whether those weeks are consecutive or not.

The Secretary of State may by regulations increase the number of hours overtime or the number of weeks in which overtime may be worked, if he is satisfied that the exigencies of the businesses require it. Provision is made for an employer who employs young persons at, or in connection with the business carried on at residential hotels, places of public entertainment, public swimming baths, bathing places or Turkish baths, by giving notice to the local authority in the prescribed form, that he may elect that the provisions of the Shops Acts shall apply to all such young persons. Proprietors of cinemas and theatres are availing themselves of this provision, and without exception have adopted the provisions of the Shops Acts. This Act (the Young Persons Employment Act, 1938) has the effect of amending the Shops Act, 1934, so as to provide a maximum working week of 44 hours for young persons under 16 years of age as and from the 1st of January, 1940, and not 48 hours per week as heretofore, whilst it also provides that these young persons may be employed 48 hours in the week before or the week succeeding Christmas Day, providing that their total hours of employment for these two weeks shall not exceed 88. To avail themselves of this concession, a specified notice must be exhibited on the premises.

It should be noted that in this Act, the weekly half-holiday for young persons is required to commence not later than 1 p.m. and not 1-30 p.m. as specified in the Shops Acts.

In respect of the persons employed at premises where the Shops Acts have been adopted, it must be observed that 1 p.m. is the hour fixed for the weekly half-holiday.

Premises, etc., controlled by Byelaws and Regulations.
Common Lodging Houses.

At the commencement of the year 1938, there were on the register 59 lodging houses providing accommodation for 3,257 lodgers. During the year, 6 houses were removed from the register, of which 3 were voluntary, 2 were acquired by the Corporation in re-development areas, and one was situated in a clearance area.

During the year, 59 applications were received from persons for the renewal of registration as keepers, of which number 50 were granted for a further period of 12 months, and no action was taken in 9 cases owing to the houses being situated in clearance or re-development areas.

Forty-five verbal notices for infringements of the byelaws were given to registered keepers during the year.

Infringements of the byelaws had reference to defects in sanitary fittings and pavings, windows requiring cleansing or re-glazing, verminous bedding, choked wastepipes, gullies and w.c. basins, floors not swept or washed, slops not emptied, etc.

No informations were laid against keepers during the year.

Inspection of Common Lodging Houses.

Number of houses on register (males only)	45
,, ,, ,, ,, ,, (females only)	8
,, ,, lodgers allowed (males)	2,573
,, ,, ,, ,, (females)	369
,, ,, day visits	1,301
,, ,, nocturnal visits	91
,, ,, special visits	30

Inspection of Houses Let-in-lodgings.

Number of houses on register, January 1st, 1938	14,863
,, ,, ,, removed from register during 1938 ...	200
,, ,, ,, added to register during 1938	nil.
,, ,, ,, on register, December 31st, 1938 ...	14,663
Total number of visits and re-visits	6,591
Number of inspections for infringement of byelaws ...	315
,, ,, floors, stairs, etc., found dirty	89
,, ,, ,, ,, ,, cleansed on re-visit	89

No informations were laid during the year.

In a large number of houses let-in-lodgings situated within the old city boundary, the standard of accommodation is poor, and of these 4,974 are included in areas represented as being unfit for human habitation under the Housing Act.

Canal Boats.

Public Health Act, 1936. Part X. Sections 249 to 258.

The Leeds and Liverpool Canal Company are the proprietors of the only canal having direct communication with Liverpool, and the length of the waterway within the city, exclusive of the locks which lead to the docks, is about three miles.

The number of inspections of canal boats during the year was 1,628 and the condition of the boats and their occupants as regards matters dealt with in the Act and Regulations is indicated in the following table:—

Boats on register, 1st January, 1938			398
New boats registered			9
Boats removed from register			4
*Boats on register, 31st December, 1938	motor-propelled	75	403
	motor-towed	43	
	steam-propelled	61	
	steam-towed	102	
	horse-drawn	122	

Contraventions occurred on 59 boats, of which number, 10 were registered by other authorities.

Nature of Contraventions.	Reported.	Remedied.
Unregistered boats used as dwellings	6	6
No certificate on board or certificate not legible	4	4
Unregistered cabin used as dwelling	1	1
Leaky decks	15	14
Defective stoves or stove-pipes	22	20
Cabins requiring re-painting	18	18
Registration authority and number not painted on boat ...	3	1
Dirty cabin	1	1
Registered number not legible	4	3
Defective skylights	3	1
Defective water tank	1	1
Defective covers to cabin hatchways	2	2
Verminous cabins	2	2
Defective bulkhead	1	1
Defective cabin fittings	4	4
Defective deck lights	3	1
Incorrect markings	1	1
TOTAL	91	81

*Of the 4 boats removed from the register, 2 have been sold outside the district and 2 were sunk.

Written notices were issued to owners in 56 instances, and verbal notices were given to masters in 3 instances. Of these notices 52 have been complied with. No informations were laid during the year against owners or masters for infringement of the Acts or regulations. No case of infectious sickness was reported as having occurred during the year on any canal boat visiting the district.

The inspectors of the Port Health Authority made 872 inspections during the year and 50 contraventions were discovered, which were subsequently dealt with. These figures are included in the foregoing table.

Details of Visits to Boats Plying on the Canal.

186 boats were visited, which were registered as follows:—121 at Liverpool, 16 Runcorn, 10 Manchester, 1 Wigan, 10 Chester. Twenty-eight boats were not registered (not used as dwellings).

All were "wide" boats, 68 being steam-towed, 59 motor-driven, 13 motor-towed, and 46 horse-drawn.

The number of inspections of these 186 boats was 756, and the population comprised:—Men, 310; women, 9; children, 4; a total of 323 persons, the sexes and ages being as follows:—

Males over 14 years of age	310
,, ,, 5 and under 14	2
,, under 5 years of age	Nil.
Females over 12 years of age	9
,, ,, 5 years and under 12	1
,, under 5 years of age	1
	323

NOTE.—Males on attaining the age of 14 years, and females 12 years, living on canal boats, become adults, and are recorded as such in the above table (made under Reg. 111, Sec. 2, Canal Boats Act, 1877).

Three children of school age were found on canal boats during the year, who were on trips with their parents during the school holidays. No families were found on a boat on the canal who had not a home ashore in addition to that on board.

Employment Agencies.

These premises are controlled by Byelaws made under the Liverpool Corporation Act, 1927, and visits are made from time to time to ascertain that the requirements of the Byelaws are being carried out. There are at present 33 licensed Employment Agencies on the Register.

Liverpool Corporation (General Powers) Act, 1930, Section 27.

The above Section provides for the adequate lighting of common staircases in tenement buildings.

All staircases in tenement buildings have been inspected, and it was found that in every instance the staircases were adequately lighted.

Inspection of Stables and Removal of Manure.

Stables within the city are systematically visited by the district inspectors, constant attention being paid to the frequent removal of the manure and to general sanitation.

The total number of visits to stables during the year was 12,163, and the following summary indicates the position at the end of the year :—

Number of visits to stables	12,163
,, ,, ,, ,, ,, found occupied	754
,, ,, ,, ,, ,, ,, disused	1,316
,, ,, middens inspected	6,502
,, ,, ,, found fly infested	3
,, ,, ,, ,, incorrect	80
,, ,, visits to manure depots	74
,, ,, manure pits repaired	10
,, ,, ,, ,, emptied	69

The number of stables in use at 31st December, 1938, was 754, as compared with 803 at the end of the preceding year.

The manure depots are situated in close proximity to the North Corporation Destructor, and visits are made to them to see that the manure which has been received from the stables in the centre of the city is frequently removed so as to avoid the possibility of breeding places for flies.

During the year 74 visits have been made to manure depots.

Offensive Trades.

There were on the register of offensive trades in the city at 31st December, 1938, 130 businesses coming under this category, which is three more than the number at the end of the preceding year.

Nature of Business.	1937	1938
Blood boilers	—	—
Blood driers	—	—
Bone boilers	2	2
Fat extractors	7	7
Fat melters	10	10
Fellmongers	—	—
Glue makers	—	—
Gut scrapers...	7	7
Rag and bone dealers	61	63
Size makers	—	—
Soap boilers	8	9
Tallow melters	—	—
Tripe boilers	5	5
Fertilizer manufacturers	5	5
Hide and skin stores	10	10
Knackers' yards	2	2
Lard refiners	3	3
Meat (horse and cow) boilers	1	1
Oil and chemical works	1	1
Tanneries	5	5
TOTAL	127	130

When permission is granted to carry on an offensive trade, conditions are imposed requiring that the premises be put in order to the satisfaction of the City Engineer, Building Surveyor and Medical Officer of Health, that no public or private nuisance be caused, and that the business be discontinued whenever the Council shall so require.

During the year the number of inspections was 2,481.

Number of special visits	15
,, ,, ordinary visits	2,198
,, ,, re-visits *re* nuisances	268
,, ,, applications to establish	7
,, ,, ,, granted	7
,, ,, ,, for renewal	6
,, ,, ,, granted	6
,, ,, Offensive trades discontinued and removed from register	4
,, ,, nuisances found	218
,, ,, nuisances abated	215
,, ,, premises rat infested	12
,, ,, premises fly infested	8
,, ,, notices issued (informal)	152
,, ,, ,, ,, (statutory)	58

Fish Friers' Premises.

At the end of the year there were 660 fish friers' businesses within the city, all of which were visited systematically to see that the requirements of the Byelaws were carried out.

Number of special visits	245
,, ,, ordinary visits	2,652
,, ,, re-visits	1,313
,, found incorrect	684
,, of nuisances found	1,011
,, ,, ,, abated	996
,, ,, contraventions of Byelaws	2
,, ,, ,, ,, remedied	2
,, found rat infested	—
,, found fly infested	—
,, of notices issued (informal)	684
,, ,, ,, ,, (statutory)	2
,, ,, incidental calls	168

Picturedromes.

At the request of the Licensing Justices, officers of the Public Health Department systematically visit all picturedromes and theatres to see that the means provided for the ventilation of the auditorium are in

use, attention also being directed to the condition of the sanitary conveniences, provision of seats for the attendants, the general cleanliness of the premises, and the water supply.

During the year, 556 night visits were paid. A day inspection is also made, so that closer attention may be given to the examination of the sanitary conveniences. In 19 cases minor defects were observed and these were remedied on the attention of the managers being called thereto.

Special Visits.

Complaints are occasionally received from passengers directing attention to the dirty condition of railway carriages. These carriages are from time to time inspected, and if they are found in an unclean condition the railway company concerned is informed and the matter receives prompt attention.

Number of visits to railway carriages	171
,, ,, ,, platforms (fish arrivals) ...	52
,, ,, poultry depots	663
,, ,, marine stores	997
Observations *re* swill removal	330

Warehouses.

During the year, 1,000 warehouses were inspected and examined in regard to general cleanliness and sanitary accommodation, with the following result:—

	Reported.	Remedied.
Number of warehouses without water-closet accommodation	4	4
,, ,, warehouses with unsuitable water-closet accommodation..	8	8
,, ,, other nuisances found	16	16

Furniture Removers.

Premises visited	84
,, re-visited	—
Vans inspected	145
,, found dirty	1
,, re-inspected	1

DISTRICT SANITARY INSPECTORS.

PARTICULARS OF WORK DONE DURING 1938.

Routine Inspections. (Dist. Nos. / Municipal Wards)	1 Sandhills	2 North Scotland	3 South Scotland	4 Vauxhall—Exchange—Castle Street	5 St. Peter's—Gt. George	6 Brunswick	7 Dingle	8 Princes Park	9 Granby	10 Abercromby	11 St. Anne's	12 Netherfield	13 Kirkdale	14 St. Domingo	15 Breckfield	16 Everton	17 Low Hill	18 Kensington	19 Edge Hill	20 Fairfield	21 Anfield	22 Walton	23 Warbreck	24 Fazakerley	25 Croxteth	26 West Derby North	27 West Derby South	28 Old Swan	29 Wavertree West	30 Wavertree	31 Sefton Park East	32 Sefton Park West	33 Aigburth—Allerton	34 Garston—Speke	35 Woolton—Childwall	Totals 1938	Totals 1937	Totals 1936	Totals 1935
[illegible] Health Acts.																																							
[illegible] visited	110	1,200	880	760	740	850	960	1,009	940	750	900	946	750	971	780	878	749	971	980	972	287	819	645	600	373	644	813	571	797	484	695	739	863	711	667	26,894	48,044	78,135	74,383
[illegible] houses re-visited	3,012	3 169	2,335	2,280	3,027	2,005	4,422	4,850	3,542	2,858	3,121	4,845	3,397	4,787	3,006	4,193	2,695	4,106	4,906	3,728	1,389	3,673	1,849	1,509	802	2,095	2,716	1,816	3,361	1,851	4,412	2,767	2,412	2,277	1,307	104,610	85,984	74,326	61·118
[illegible] special complaints	882	479	419	328	493	452	1,190	651	621	555	585	780	840	849	561	1,111	590	599	654	658	274	809	592	246	445	663	881	764	636	433	437	293	540	560	322	20,902	18,928	24,065	22·190
[illegible] nuisances found due [illegible]	652	519	344	259	[illegible]	366	1,419	850	656	641	700	869	1,029	753	692	2,462	646	595	1,030	664	296	854	571	175	185	512	1,091	478	668	282	566	266	369	754	150	22,678	17,101	20,569	22,272
nuisances found [illegible] district	421	1,193	2,202	540	[illegible]	333	863	954	751	642	1,060	1,455	888	728	499	1,634	907	1,277	1,348	513	155	624	216	163	47	187	137	153	494	305	801	411	45	576	194	23,327	30,488	27,699	31,020
houses in respect of [illegible] were served	890	1,308	636	625	660	631	1,227	1,157	994	652	773	1,257	1,153	951	961	1,383	886	1,186	1,763	998	488	872	427	318	174	490	509	579	856	508	968	602	515	761	282	28,440	36,726	36,258	36,989
[illegible] repairs	858	1,259	632	585	623	619	1,202	1,157	962	658	408	1,194	965	929	973	1,383	854	1,163	1,693	974	463	772	394	300	169	481	468	583	695	482	957	602	509	761	282	27,009	28,053	28,490	26,729
notices served on owners [illegible]	224	477	292	332	307	270	628	595	606	348	202	649	999	460	296	797	512	553	808	511	197	145	101	64	40	224	261	278	335	308	648	230	118	324	127	13,246	14,902	15,280	13,358
[illegible] statutory		3	6	11	4	39	11		1		2		16			8	2	1	...	19	6	...	1	1	3	3		1	2		...	...	...		1	141	151	119	155
notices served on [illegible] statutory	1		2			41	1						22			1											5		5	1						79	95	101	29
[illegible] calls	1	1,322	1,142	1,208	[illegible]	713			31	444	1,432	1,543	49	10		250	754	1,171	...	2	122	13	336	18	100	13	155	280	589	344	190	32	616	241	599	14,231	12,362	...	...
[illegible]-to-House Inspection.																																							
street houses exami[illegible]	1,708	483	395	806	70	1,248	213	619	501	355	8	123	72	252	1,298	110	546	296	685	849	1,818	486	48	708	676	428	632	892	1,010	607	2,123	1,712	933	325	507	23,542	25,302	7,404	...
apartments examined	7,778	2,026	1,627	2,793	264	6,094	1,251	3,887	2,275	2,336	21	570	375	1,104	7,022	547	2,940	1,232	3,289	4,249	9,537	2,920	194	3,963	2,134	2,392	2,062	2,360	5,170	2,949	4,925	9,340	3,718	1,520	2,026	106,890	123,176	39,128	...
houses where nuis[illegible]	258	190	42	84	15	207	121	341	161	71	5	51	18	50	360	72	143	81	397	359	340	163	1	129	54	117	110	204	273	172	676	231	241	180	88	6,005	7,901	2,609	...
[illegible] nuisances found	258	288	46	161	24	323	249	727	236	105	11	97	24	69	627	188	259	150	644	634	551	302	1	147	60	224	159	300	424	287	1,403	423	424	545	118	9,488	13,396	3,461	...
[illegible]ous Diseases.																																							
[illegible] infectious [illegible]	369	298	275	146	132	260	480	262	201	421	225	460	451	454	461	410	311	233	234	263	444	614	545	506	969	361	196	617	275	341	203	95	246	390	244	12,302	14,594	11,835	14,538
[illegible] visits to infected houses	392	312	307	153	149	291	564	283	220	388	252	493	489	464	457	438	328	265	253	301	388	677	577	727	941	375	214	589	296	363	207	96	256	394	255	12,954	15,541	12,757	19,048
[illegible] visits to phthisis cases	26	35	27	10	19	31	93	23	21	37	31	33	43	8	22	43	26	39	23	32	23	60	37	25	16	26	18	16	17	30	23	12	13	25	11	974	982	1 126	3,091
[illegible] inquiries re suspected [illegible]	...	...	...	6		...	...	...		...	...	...			13	...	...	...	...	...	...	1	...	...	3	5	...	10	...	4	5	...	...		...	47	5	1	3
[illegible] inquiries re contacts [illegible] cases of [illegible] disease		9	.	1	7	5	3	...	...	...	...	...	...	...	...	...	...	...	...	7	...	...	...	...	...	...	...	...	...	...	...	...	...	335	...	367	808	12	11
[illegible] and Alley Examinations.																																							
[illegible]		272	2,498	927	534	412			212		1,117		485			564	172		124																	7,317	8,380	9,718	6,410
[illegible] courts inspected		247	2,233	460	435				220		799		195			423	172		86																	5,270	6,158	...	...
[illegible] alleys inspected		24	252	567	90	380					318		299			141			30																	2,110	2,222		
[illegible] water closets inspected		842	5,001	1,433	787	860			396		2,091		776			893	292		203																	13,574	15,056	16,863	18,782
[illegible] water closets found dirty		42	1,691	157	19	860			223		13		293			282	127																			3 598	3,106	3,400	4,796
[illegible] water closets re-[illegible]		38	1,589	157	9	860			205		10		293			282	127																			3,570	3,071	3,383	4,023
[illegible] and Manure Depots.																																							
[illegible] visits to stables	776	365	710	731	266	494	354	225	344	341	224	374	893	227	825	589	279	292	395	367	264	138	152	120	122	215	117	336	223	284	169	282	289	249	132	12,163	13,024	15,292	10,691
[illegible] stables found [illegible]	25	46	45	32	27	21	41	14	13	24	11	40	60	28	23	34	18	8	46	10	9	12	25	6	6	17	7	16	15	23	10	8	9	19	8	754	803	998	946
[illegible] stables found [illegible]	59	48	50	45	64	56	47	16	49	70	59	47	94	63	21	94	24	32	18	60	1	25	10	11	1	41	16	32	20	38	21	21	19	31	13	1,316	1,264	1,259	1,478
[illegible] manure pits inspected	483	226	322	263	[illegible]	153	239	143	139	308	49	193	419	120	379	224	151	184	323	161	264	138	95	50	11	109	100	108	153	129	61	256	274	141	39	6,502	7,104	7,748	3,945
[illegible] manure pits found fly [illegible]																									1				2							3	6	38	23
[illegible] manure pits found [illegible]		4	1				1																			2		1						1		10	25	308	208
[illegible] manure pits re[illegible]	1	5	3	17		1	6		2		1		14			2	2	2	2	1							1			9	1					70	116	...	...
[illegible] manure [illegible]		9		47																														18		74	84	79	58
[illegible] excessive a[illegible]		6	1	6		10	2			1						3			1					1			5	7								43	41	...	...
[illegible] other nuisances [illegible]		8	11	20		1	24			1			12			10	1							3				3	1					4		100	100	...	...
[illegible] and Mice Destruction Act. 1919.																																							
[illegible] premises visited	4,538	2,970	3,339	3 786	2 [illegible]	3,433	3,536	4,218	3,533	2,572	2,868	3,521	3,506	3,130	3,963	2,955	2,706	2,765	3,094	3,651	3,021	3,257	1,929	2,668	2,466	2,295	2,612	2,965	2,886	2,284	3,593	3,300	3,175	2,124	2,070	106,868	113,968	119,433	171,050
[illegible] premises found rat [illegible]	3	28		26	33		21		8	25	37		35			4	18	5							45	1	23			4	9		17	12	66	420	636	459	492
[illegible] notices served	2				9				1	14	18		30			4	17										5							6		106	190	72	15
[illegible]pool Corporation Act, 1936.																																							
[illegible] second-hand [illegible] Sec. 83	228	40	100	60	64	184	224	50	89	177	99	130	99	81	128	163	92	142	47	137	159	54	15	...	...	51	32	67	6	33	90	...	...	37	15	2,893	2,739	451	...
[illegible] containing [illegible]																																				...	4	8	...
[illegible] drains reported existing, Sec. 60		2			2								1									1														6	10	...	...
[illegible] abolished [illegible]		2			2								1									1														6	10	...	...
Public Health Act, 1936, Sec. 46 and 92 (Offices).																																							
N[illegible]	1	121	110	362	120	3	8	2	1	158	231	10	134	40	3	32	50	5	2	4		7	10	6		4	1	16		29		2	9	6		1,487	606		
N[illegible] re-visits		8	5	6	5		4			3	6		6			4		1																		48	134		
N[illegible] lack of W.C. [illegible]		3	1	6	6		4			3			5						1				2													31	10		
N[illegible] with unsuitable W.C. [illegible]		8	3	23	10					1	10		2			1										1				3						62	17		
N[illegible] with lack of ventilation		2	4	15	1					1	9																						1			33	17		
N[illegible] lighting				1	1																															2	2		
N[illegible] with [illegible] cleanliness		6	10	4			1				1					1																				23	35		
N[illegible] where [illegible] was found																																				...	...		
N[illegible]				1						1	1																									3	1		
N[illegible] nuisances [illegible]	1	140	139	462	170	3	17	2	1	158	231	17	144	78	3	32	49	4	2	4		3	10	6		4	1	16		28			9	6		1,731	606		
N[illegible] found		4	6	13	8		2			17	1		2	2		10										1				2			1			69	41		
Special Visits.																																							
N[illegible] Merchandise Marks Act	433	135	500	240	213	366	411	439	794	535	181	746	317	450	696	673	412	511	477	679	389	346	504	446	573	481	371	498	362	893	517	502	407	268	215	16,010	17,358	12,877	...
N[illegible] incorrect and shop-keepers cautioned Merchandise Marks Act		16							5		9	1		2				12		3					9								4			61	71	1,538	...
N[illegible] visited (Merchandise Marks Act)		111	339							9		105	20	1				10		4					2											601	1,056	...	...
N[illegible] incorrect and cautioned		2												1																						3	38		
N[illegible] of visits to [illegible]	99	116	215	93	157	119	217	65	122	182	71	146	289	71	106	150	139	152	212	100	118	175	96	201	134	130	108	151	82	137	106	65	129	121	101	4,575	4,403	4,290	4,287
N[illegible] found incorrect		5		1						8	1	1	11	1					2		4			3	5	2	5		3					1		53	97	75	116
N[illegible] visits to public parks re sanitary conveniences			71		50	41		29		36		37	61	47	14	57		162		213	65	67	100	88	119	121	41	41	1	44	177	202	52	29	190	2,245	2,207	1,929	2,412
N[illegible] sanitary conveniences found incorrect			1													3							1				1	1	3						1	11	23	15	55
N[illegible] visits to poultry stores				24	21		24		68	102	188		146	8						13		42					27									663	613	517	535
No. of poultry stores found incorrect										1																										1	20	15	22
N[illegible] of visits to marine stores	26	44	99	43	36	16	73	13	26	32	20	24	109	23		56	114	12	39	45	15					1	16	27	1	21	31			13	22	997	995	950	826
N[illegible] of marine stores found incorrect			1							2			1																		2					6	16	7	5
No. of visits to railway carriages					171																															171	205	229	209
No. of railway carriages found dirty																																				...	...	1	...
N[illegible] of observation cases	87			151				86					81			38	247	65	128					3					182	188			2		249	1,507	1,076	2,207	5,977
N[illegible] visits to shops		1																	1																	2	243	1,353	28
N[illegible] premises found fly infested																																				...	...	1	...
No. of incidental calls	11						30							3		1	292	56	4									2	24	312			15	38	200	988	1,304	...	...
Total number of nuisances reported	1,331	2,000	2,602	960	1,050	1,022	2,531	2,531	1,623	1,188	1,302	2,421	1,941	1,548	1,818	4,284	1,812	2,022	3,002	1,811	1,031	1,676	788	485	282	923	1,387	931	1,592	894	2,772	1,099	838	1,877	462	55,834	55,713	50,863	55,298
Total number of nuisances abated	1,371	2,129	2,572	965	1,043	1,068	2,465	2,478	1,556	1,240	1,267	2,271	1,984	1,540	1,708	4,340	1,769	2,073	2,963	1,725	1,005	1,665	788	452	283	941	1,314	884	1,430	949	2,863	1,114	859	1,990	383	55,347	55,889	49,030	53,506
Total number of nuisances outstanding	10	87	59	26	73	36	261	168	136	87	85	257	102	130	132	81	91	119	123	156	41	71	44	39	10	47	149	67	191	48	246	24	37	92	46	3,371	2,749	2 725	1,792
References to other Departments.																																							
To the City Engineer	50	82	55	42	19	69	31	49	20	23	29	84	56	40	14	64	48	78	78	38	26	29	50	27	7	32	68	31	31	24	60	15	23	34	2	1,388	1,600	1,751	1,889
To the Building Surveyor	62	407	117	100	26	52	18	112	13	61	55	126	88	85	25	268	177	35	137	26	18	49	24	18	1	48	116	46	29	26	60	20	17	9	12	2,463	2 302	2,492	2,361
To the Water Engineer	54	113	77	57	67	51	14	55	16	13	77	152	51	73	34	120	65	72	124	40	39	16	16	13		22	20	27	19	98	118	30	39	27	10	1,819	1,864	2,237	2,073
To the Education Department			3				1			1			12			2	1	1			4								3				2			30	35	43	15
To other Departments		21		1	26			1	10	7	6	3	4	1		3	9	1	1	1		1	4		17					1	7		4	4	2	135	269	4	4
Inter-Departmental References		22	2	1	105	5			2	3	20		22			12	15	2		1			3					5		1	1			7	2	231	176	291	222
Drain Testing.																																							
No. of volatile tests—positive																																				...	...	...	...
No. of volatile tests—negative																																				...		..	...
No. of colour tests—positive	1		1	12	1											1	12	1									2				2		3	1		25	120	204	90
No. of colour tests—negative			10	4	2					2	2			2		10	4	2									1				7	1	2	2		59	214	133	180
No. of smoke tests rockets—positive	9	2	42	17	8	14	3		3		3		5	1	2	42	17	8	14	3		3	2			5	6		2	1	21	4	22			246	506	236	227
No. of smoke tests rockets—negative	14	2	29	42	21	11	8	1	1	3	4		7	6	2	29	42	21	11	8	1	1		2		7	5	1	6	4	18	19	20	1		322	745	499	364
No. of smoke test machine—positive	13	2	11	6	62	56	2	1	1	1		1	6	15	2	11	6	62	76	2	1	1	3	3	1	6	10	10	5	2	11	3	19	11		438	287	381	332
No. of smoke test machine—negative	5	1	1		79	29	2						2	8	1	1		79	29	2			1	4		2	8		3	1	4		3	5	1	277	160	224	125

Nature of Work Done. (Dist. Nos. / Municipal Wards)	1 Sandhills	2 North Scotland	3 South Scotland	4 Vauxhall—Exchange—Castle Street	5 St. Peter's—Gt. George	6 Brunswick	7 Dingle	8 Princes Park	9 Granby	10 Abercromby	11 St. Anne's	12 Netherfield	13 Kirkdale	14 St. Domingo	15 Breckfield	16 Everton	17 Low Hill	18 Kensington	19 Edge Hill	20 Fairfield	21 Anfield	22 Walton	23 Warbreck	24 Fazakerley	25 Croxteth	26 West Derby North	27 West Derby South	28 Old Swan	29 Wavertree West	30 Wavertree	31 Sefton Park East	32 Sefton Park West	33 Aigburth—Allerton	34 Garston—Speke	35 Woolton—Childwall	Totals 1938	Totals 1937	Totals 1936	Totals 1935
Drainage and Sanitary Arrangements.																																							
Choked drains cleansed	102	123	106	63	102	99	93	79	100	103	113	112	109	66	66	143	114	91	128	70	39	69	42	38	30	70	59	70	41	60	60	68	59	60	17	2,764	2,746	2,867	2,976
Drains amended	...	91	35	26	56	68	80	81	15	47	12	93	55	93	43	120	13	67	91	73	61	30	18	8	15	92	75	19	44	67	80	..	22	23	12	1,725	1,746	1,700	1,658
Drains reconstructed				3			5		60	7							20	148	8		4												13	21	2	291	181	95	179
Extra drains provided									7	14							1																	3		25	15	1	19
Cellars drained																																	6	11		17	5	3	4
Drains underneath houses abolished													1																				3	2		6	1	1	1
Drainage systems intercepted from sewer									1	1					1																					3	4		...
Open drain inlets trapped				1				51	3	10			4	1	17					13					1	2						1	9	8		121	153	59	207
Waste pipes trapped	4	2	1	18	49	18	44	62	46	26		53	20	3	1	9	87	25	3	1	6		2	5	14	2			1	2	72	65	2	34	2	679	730	278	318
Waste pipes disconnected		1	1		1	4	2			9		3				1	8	4	48	3									1	1			14	4	1	106	75	32	105
Rainwater pipes disconnected		2		2	4		5	14	7	7						4	22	7	115	1			1	2		4	1	1	14			10	13	3		239	293	37	144
Rainwater conductors repaired or renewed	160	155	98	93	30	74	190	233	93	95	29	125	65	131	126	314	77	174	249	92	20	197	51	23	14	19	83	56	103	67	271	58	24	83	27	3,699	3,509	3,735	4,096
Sinks repaired or renewed	66	34	26	4	14	5	25	80	26	3	56	7	4	51	33	136	43	59	65	45	6	22	30	34		37	79	33	43	37	12	6	37	51	6	1,215	1,180	729	942
New sinks provided	7	...	...	1	3	3	16	1	8	15	1	28	18	1	13	6	34			18	2	2		1		1		7	8	9	7	33	29	33	1	306	338	210	368
No. of houses reported for provision of water closets																																	9	2		11	5	3	7
No. of houses provided with water closets		1		1		2																			18			1				3	9			35	15	9	3
Water closet pedestals renewed	40		7	10	5		5	1	8	16	9	16	23	9	8	18	26	18	2	11	3	2	5	4	6	2	1	4	16	16	30	81	32	23	4	461	576	415	606
Water closets and flushing apparatus repaired	130	184	31	25	107	45	56	63	107	62	20	44	58	18	56	109	66	31	96	77	9	52	49	14	13	16	93	8	13	18	86	6	22	77	12	1,873	2,011	3,174	1,695
Water closets cleansed		14	1590	3			3		5	2	4	2	293			256	125								1	4	8						8	7		2,325	2,813	2,951	4,023
Water closet apartments cleansed and limewashed		1			2						2																						10	5		20	14	26	34
W.C. apartments properly lighted and ventilated			1	4					1	9	2									5		5				1							15	10		53	34	59	48
General repairs to water closets	129	167	155	134	40	117	288	305	148	154	161	199	160	152	171	558	195	203	428	184	186	216	47	42	8	88	91	157	113	165	328	138	37	160	65	5,489	6,118	5,217	6,017
Additional water closet accommodation provided									1	2	4		1	4															2			3	2			19	21	14	22
Soil-pipes repaired or renewed	12	1		24	7		3	13	3	19	4		7	1	1	2	11	8	41	36	3		1		1			7	63	6	54	2	4	77		411	284	92	279
Indoor soil-pipes abolished	1																											1	12				1	1		16	3	1	5
Privy apartments cleansed and limewashed																																	3	1		4	2	3	..
Privy structures abolished																								10	40									10	2	62	5	30	8
Deposits of slops in ashpits prohibited															1														1				5			7	12	2	4
Ashpits abolished		2					12					2	1	1	4	5	3				4				9							3	5	1	1	53	119	42	157
Dust bins repaired or renewed	68	103	48	58	42	71	96	128	100	100	17	90	112	113	86	111	131	198	227	206	54	36	57	68	13	52	77	93	96	46	177	136	72	81	23	3,195	3,101	2,143	1,211
Houses provided with new dustbins		1	6	3			10	2	4	1		56	12		10		42	4			139	68				2	10	13	1	2		20	23	7		436	768	562	714
Urinals cleansed, amended or screened				3					1								2											4					5			15	18	2	23
Urinals remodelled																																	3			3	1	..	..
New urinals provided																																	1			1	..	...	...
Dwelling Houses, etc.																																							
Dampness excluded	76	109	4	37	21	21	166	127	4	16	77	9	98	100	179	181	33	80	90	11	111	41	75	10	9	174	189	12	70	24	71	48	108	139	16	2,626	2,789	2,468	2,747
Roofs repaired	255	454	131	108	154	188	435	352	354	161	191	491	301	312	333	652	228	353	471	210	103	306	212	92	12	121	185	134	267	124	492	106	84	122	54	8,548	5,689	8,286	8,780
Houses or parts cleansed and limewashed		5	3	5	15	4	2		1	7	6		3				2	1	2			15	1	2			3		1	1		2	3	4	2	88	72	65	84
Verminous houses dealt with		5		4	6	1	9			2	2		3	1			1	4		1	2		1					1						6		49	71	47	61
Ventilation improved		26	1		9	11	31		1	2	4	9	1		3	10	23		2	1	1	1	2			9	23	3		2		12	7	65	2	261	270	222	244
Window cords repaired or renewed	75	80	39	19	8	21	103	51	35	29	42	33	58	44	68	276	97	52	100	25	16	52	14			1	34	4	18	17	65	3	2	79		1,760	1,390	675	824
Lighting improved									4	1	4			1	1	1	2	1		2		1					1							3		22	107	23	57
General repairs executed	164	334	187	153	179	92	407	365	229	114	314	452	211	296	211	910	181	228	330	205	50	177	26	38	85	121	94	153	167	108	437	139	25	412	48	7,642	7,713	6,725	6,937
Kitchen ranges repaired or renewed	6	5		12		5	43	55	19	52	52	95	37	11	28	11	7	52	104	6	3	3	10	4		6	2	1	39	11	2	1		87	6	775	588	366	521
Washing coppers provided or renewed				4			6	19	1	4	2			1	6		1		5								1							15		65	62	35	115
Handrails provided							2																											5		7	2	1	3
New food stores provided and ventilated																																					11	6	45
Water supply improved	28	19	12		23	27	22	12	11	22	16		37	13	36	42	25	98	10	46	3	52	2	2		35	3	12	7	6	34	1	11	43	11	721	820	963	655
Houses supplied with water		38	16	10	1			1	4		40	17	11	3		8		2	3				13			1	1				3		4	16		192	205	406	313
Outbuildings repaired			1							1																								3		5	23	3	23
Cellar areas cleansed		49		1	1	20	1			1			1	1																				2		77	124	68	12
Public Health Act, 1936, Sec. 46 and 92 (Offices).																																							
Water closet accommodation provided		2	1	4	4					1			5						3							1										21	5		...
Water closet accommodation improved		6	2	22	6		4			1	3		1			1			1											3						50	11		...
Ventilation improved		1	3	15	1					1	9																						1			31	17		...
Lighting improved				1	1																															2	2		
Uncleanliness remedied		6	10	6			1						1			1																				25	35		
Effluvia remedied																																				...			
Overcrowding abated				1						1	1																									3	1		
Nuisances abated		4	6	12	18		1			6	1		2			10										1				2			1			64	36		
Courts, Back Yards, Stable Yards, etc.																																							
Yard paving repaired	44	78	49	61	93	112	218	382	72	39	22	304	45	107	204	339	54	12	225	385	135	280	54	45	31	79	181	8	242	125	267	148	99	95	40	4,707	5,148	2,846	3,170
Yards repaved	1			9		28	6		70	22			50			85	48	103	77	5	31	1	20	11				58	22	30		19	14	50	11	771	687	451	743
Stable yards newly paved	2			1			6			3											3							4								19	34	6	36
Stable yards cleansed		6			1		9										2																			18	65	106	110
Stables cleansed and limewashed		9	6	14	6	12	1			2			6			8	2		4						1			1		2				2		76	36	17	11
Manure pits repaired		4	1				1																					4								10	27	44	17
Manure pits provided				1																								1								2	6	...	...
Manure pits emptied	1	5	3	17		1	6		2		1		14			2	2	2	2	1							1			8	1					69	114	264	191
Accumulations of manure removed			4	4	3		5			4			10			3	4	5	7			8		1		2	7	8	3					11	2	91	116	.	..
Keeping of Animals, etc.																																							
Improper keeping of swine prohibited																																							
Improper keeping of fowls, etc., prohibited							1					4				3	1	1	1													1				12	16	15	10
Accumulations of offensive matter, etc., removed		16	5	15	58		39		5	41	22	20	44			98	37	18	25	34		8	1	5	1			2	16	12	27			13	7	569	551	393	275
Miscellaneous.																																							
Vacant land cleansed																																				...	...		1
Vacant land enclosed																																				...		3	1
Caravans removed				3							3		7			1						7				1	1						1		1	25	11		4
Improper keeping of animals																																				...	...		1

Prosecutions															
No. of Informations laid	87	No. of Magistrates' Orders	38	No. of Fines and Orders	32	No. Orders and Costs	6	No. Discharged with Caution and Costs	5	Amount of Fines and Costs	£37 18 0	£22 17 0	£22 19 0	£14 7 0	
				No. Fined	30	No. Dismissed	2	No. withdrawn	3						

Prohibition of Sale of Verminous Furniture, etc.

Under Section 83 of the Liverpool Corporation Act, 1936, no dealer shall sell or expose for sale any second-hand furniture, mattress, bed-linen or similar articles if the same are to his knowledge infested with bed-bugs or if by taking reasonable precautions he could have known the same to be so infested.

Two thousand eight hundred and ninety-three visits have been paid to premises by the district sanitary inspectors, and no infringements were observed.

Public Health Act, 1936, Section 154.

Restrictions on Sales, etc., by Persons Collecting or Dealing in Rags, Old Clothes, or Similar Articles.

The attention of rag gatherers, marine store dealers and dealers in old clothes or similar articles was directed to the above enactment, which came into force on the 1st October, 1937, and observations were kept by the district sanitary inspectors on persons who collect or deal in rags, old clothes or similar articles. Infringements were observed in 15 cases, in all of which informations were laid, and 12 dealers were summoned for selling or delivering articles to children under 14 years of age, the fines amounting to £3 19s. 8d.

On the 23rd February, 1938, the Liverpool Stipendiary Magistrate gave a legal decision of importance to scrap metal and marine store dealers. A scrap metal dealer was charged with delivering fivepence to a boy under 14 years of age, in contravention of the provisions of the above enactment. Defendant was fined £1, with 6s. 1d. costs.

Removal of Remains.

Under the terms of licences issued from the Home Office the district sanitary inspectors supervised the exhumation and re-interment of 10 bodies during the year.

The Licensing of Places for Keeping Cattle.

(Liverpool Corporation Act, 1921.)

Under Sections 475 to 483 of the Liverpool Corporation Act, 1921, every person who keeps cattle shall be required to hold a licence from the Corporation both in respect of himself and also in respect of the

premises. On the licence shall be stated the number and description of the animals. The expression "cattle" includes bulls, cows, heifers, oxen, calves, rams, sheep, wethers, ewes, lambs, swine and goats and all other ruminating animals. The Corporation is required to keep a register of the licences granted, in which are entered particulars of the premises and the cattle.

In the following table is a summary of the register of licences in respect of pigs.

REGISTRATION OF PREMISES ON WHICH PIGS ARE KEPT.

	End of 1937.	End of 1938.
Number of licensed piggeries	94	89
Number of pigs specified on the licences... ...	3,831	3,755
Approximate average number of pigs kept ...	2,154	1,915

During the year, one new licence to keep pigs was applied for involving the keeping of one hundred pigs. This application was granted. No licences were transferred.

During the year, 215 visits of inspection to piggeries were made. Ten piggeries visited were the subject of notices drawing the attention of the occupiers to contraventions of the Liverpool Corporation Act, 1921, and in every case the notice was complied with.

A comparison of the numbers of licensed piggeries during the years 1934-1938, together with the numbers of pigs to which the licences referred, is given in the following table:—

A COMPARISON OF THE NUMBERS OF PIGGERIES AND PIGS LICENSED DURING THE YEARS 1934-1938

Year.	Number of licensed piggeries.	Number of pigs approved.
1934	106	4,311
1935	97	4,204
1936	92	3,866
1937	94	3,831
1938	89	3,755

In farms situated in the outer districts of the City, premises registered for the keeping of milch cows, may be used also for keeping store cattle. At the end of 1938, 402 store cattle were kept on registered premises.

Rats and Mice (Destruction) Act, 1919.

Active measures have been taken within the city throughout the year to ensure the destruction of rats, and to bring to the notice of the public the necessity of reducing the rat population to the lowest possible dimensions. There are special reasons for a constant campaign against rats in Liverpool. One reason is the possibility of the spread of plague, a disease which may be brought into the port on ships arriving from foreign countries. The destruction and damage to property, foodstuffs, etc., by means of rats further justifies the stringent measures which are constantly being taken against these vermin. In this connection the co-operation of warehouse owners and occupiers of rat-infested premises is always sought and obtained.

Ten rat-catchers are constantly employed, four being engaged in warehouses, which are visited every three months, in accordance with arrangements made with the Ministry of Health, and six rat-catchers systematically visit cafés, fried fish shops, grocery shops, foodstores, bread shops, and other places where rats are likely to be found.

The assistance given by the rat-catchers is appreciated by occupiers and owners of premises, who are always willing and anxious to forward the extermination of rats. To provide for the destruction of the rats as quickly as possible, each rat-catcher is met at a certain place every morning, the rats being collected and labelled, and a proportion taken the same day for examination by the City Bacteriologist.

The City Engineer's Department has also done valuable work in catching rats in public sewers, the rats being collected and dealt with in the same way.

It has not been found necessary to take any proceedings for non-compliance with the provisions of the Rats and Mice (Destruction) Act, 1919.

Number and species of rats examined or destroyed in the City and Port of Liverpool during the year 1938.

1938	Warehouses.		Sewers.		Other Places.		Total (City).		Ships.		Quays.		Other Sources.		Total (Port).	
	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.
January ...	18	59	...	887	14	265	32	1211	204	...	79	17	51	31	334	48
February ...	10	50	...	827	7	254	17	1131	90	...	101	6	44	7	235	13
March ...	20	35	...	921	11	315	31	1271	202	...	82	3	56	14	340	17
April ...	34	70	...	816	2	354	36	1240	244	...	49	23	67	25	360	48
May ...	24	38	...	938	1	374	25	1350	193	...	123	15	111	8	427	23
June ...	23	6	...	828	17	261	40	1095	150	...	83	16	43	15	276	31
July ...	33	4	...	853	20	277	53	1134	149	...	87	17	86	16	322	33
August ...	37	24	...	683	19	301	56	1008	86	...	57	34	33	40	176	74
September ...	80	63	...	933	4	250	84	1246	320	...	95	8	49	26	464	34
October ...	44	127	...	942	16	322	60	1391	129	...	103	14	60	61	292	75
November ...	59	67	...	924	39	386	98	1377	138	...	120	8	78	39	336	47
December ...	34	49	...	809	13	214	47	1072	186	...	60	13	54	23	300	36
Total ...	416	592	...	10,361	163	3,573	579	14,526	2,091	...	1,039	174	732	305	3,862	479

Number and species of rats caught, in the City and Port of Liverpool, during the year 1938.

1938.	Examined (City).		Destroyed (City).		Examined (Port).		Destroyed (Port).		Total Caught. City and Port.
	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black.	Brown.	Black and Brown.
January	12	257	20	954	210	48	124	...	1,625
February	7	229	10	902	187	12	48	1	1,396
March	16	260	15	1,011	215	17	125	...	1,659
April	7	230	29	1,010	210	46	150	2	1,684
May	6	263	19	1,087	251	23	176	...	1,825
June	14	220	26	875	154	31	122	...	1,442
July	10	273	43	861	207	27	115	6	1,542
August	22	225	34	783	142	72	34	2	1,314
September	28	279	56	967	240	34	224	...	1,828
October	31	290	29	1,101	203	71	89	4	1,818
November	25	334	73	1,043	252	47	84	...	1,858
December	9	224	38	848	164	33	136	3	1,455
TOTAL	187	3,084	392	11,442	2,435	461	1,427	18	19,446

Ambulance and Disinfecting Department.

The staff of the Ambulance and Disinfecting Department is engaged in (1) the removal of cases of infectious disease to hospital by ambulance, (2) the disinfection of premises and articles exposed to infection, (3) the disinfestation of verminous houses and articles, (4) charge of the mortuaries.

Ambulance Services.

The number of cases of infectious disease removed to hospital was 6,381.

Disinfection of Premises and Articles.

The number of houses disinfected after infectious disease was 2,180. The number of articles of bedding, clothing, etc., disinfected by steam after exposure to infectious disease was 134,143.

Disinfestation of Premises and Household Effects.

Premises.—During the year, 3,729 Corporation houses and 1,205 Corporation tenements were inspected for vermin. It was found that 933 houses and 781 tenements were infested with bugs. In the table below is described the action taken in these cases, as well as in 6 non-Corporation houses similarly treated.

Treatment of Infested Premises.

	Corporation Houses.		Non-Corporation Houses.
	Houses.	Tenements.	
Number treated by method "A"... ...	445	413	0
Number treated by method "B"... ...	538	274	6
Total treated	983	687	6
Number of failures (method "A") ...	2	0	0
Number of failures (method "B") ...	0	0	0
Awaiting treatment at the end of the year	98	123	0

Method "A" consists of the use of washed heavy naphtha, of which a description was given in the 1935 report. Method "B" is a laborious one, involving considerable disturbance of the house structure and consisting of the use of a blow-lamp and a liquid insecticide made up of a 3 per cent. solution of cresylic acid in kerosene (closed flash point 170° F.).

It is noteworthy that in two cases only was there failure after naphtha disinfestation to kill the bugs and their eggs. Information as to failures is obtained in one of three ways, namely, (1) a search for live bugs as soon as the house is opened after treatment, (2) reports from decorators who work in the house before the arrival of new tenants, and (3) two inspections separated by a fortnight during the first month of occupation by the new tenant. If no evidence of bugs has come to light during the first month of the new tenancy, it is reasonably certain that the naphtha has been successful in killing all the bugs and their eggs.

Of the 1,670 Corporation houses and tenements disinfested, 858 were vacant at the time of treatment and 812 were occupied. The naphtha treatment was carried out on vacant premises only.

Household Effects.—The disinfestation of bug-infested household effects is carried out in two ways, namely, by hydrogen cyanide gas and by steam. Treatment with hydrogen cyanide in gas-tight vans is reserved for furniture and non-absorbing articles of that description, and steam treatment is made use of for bedding, pillows, cushions and similar soft furnishings. During the year, the furniture of 3,207 families was disinfested with hydrogen cyanide gas, and the bedding belonging to 3,477 families was treated in a steam disinfector. In no case are the belongings of tenants allowed to enter Corporation houses unless they are known to be free from bugs or have been satisfactorily disinfested.

Control of Disinfestation Arrangements.—The treatment of premises with washed heavy naphtha, the use of the blow lamp and liquid insecticide and the treatment of bedding, etc., in a steam disinfector are carried out by the staff of the Health Department. The treatment of furniture with hydrogen cyanide is performed on Health Department premises under the supervision of the staff, but the gassing and haulage are carried out by contractors.

Supervision and Education of Tenants.—Reference was made last year to the supervision or education of tenants of Corporation houses in methods to be used by them for the care of their houses.

Inspections are continually being made by Inspectors attached to the Housing Department.

The Housing Committee is concerned about this matter, and will shortly consider a comprehensive report on management, which will include the question of educating tenants with the object of preventing infestation or re-infestation after cleansing.

Mortuaries.

In consequence of representations made by the Chief Constable and the City Coroner as to the inadequacy of the Prince's Dock Mortuary, the Health Committee, on the recommendation of the Medical Officer of Health, decided to build a new Central Mortuary at a cost of £3,875. A site was selected in Pembroke Street, which is near the City Laboratories and the University, and the building which was completed towards the end of the year was opened for use on 13th February, 1939.

Concurrently with the opening of the new mortuary, the Princes Dock Mortuary was closed.

The area of the site of the new mortuary is about 617 square yards, of which the space occupied by the mortuary building is 380 square yards, the remainder consisting of a storage yard and boiler house. In addition to the mortuary itself, there is a post-mortem room, pathological laboratory, viewing room, waiting room and attendants room, with lavatory accommodation.

A refrigerating chamber capable of holding eight bodies has been installed and eight trolleys have been supplied. It will thus be possible to deal with sixteen bodies at any given time. There are two operating tables in the post-mortem room, and the laboratory contains a microscope, a spectroscope and the necessary stains and reagents required by the pathologist for the immediate examination of bacterial smears and blood films, etc.

The mortuary is for the reception of bodies of persons who have been drowned, killed or found dead, and upon which the coroner desires to

hold inquests. Bodies are taken to this mortuary by the police, or when it is necessary to make post-mortem examinations. The mortuary is open for the reception of bodies from 8 a.m. to 11 p.m.

During the year the number of bodies removed to the old mortuary was:—

From the river	3
From the city	233

The method of transport of the bodies of persons killed, or found dead in the street, has been adequately provided for; the Health Committee has arranged, through the Chief Constable, with a firm of undertakers to supply a hearse on short notice, together with a shell coffin. This arrangement has proved satisfactory.

The Eaton Street Mortuary is used for the reception of stillbirths. The number received during the year was 162.

Cremation.

There are 47 crematoria in this country, the total number of cremations during 1938 being 16,255.

The Liverpool Crematorium, which is situated in Anfield Cemetery, was opened by the Liverpool Crematorium Company in the year 1896. When the Corporation became the burial Authority for the city in October, 1908, they took over the administration of the Crematorium.

The number of cremations which have taken place at the Liverpool Crematorium since its opening is shown in the following table:—

Years.	No. of Cremations.
1896-1905	306
1906-1915	465
1916-1925	707
1926-1935	1,591
1936	222
1937	286
1938	316
Total	3,893

Smoke Abatement.

The control of smoke emission from industrial chimneys has been well maintained during 1938. With few exceptions, prolonged excessive or black smoke has become a rare occurrence in the city, and observations show that the industrial chimneys are free from smoke for 54·5 minutes per hour, black smoke issues for 1·2 minutes per hour and smoke of any density or colour for 5·5 minutes per hour. The emission of industrial smoke in Liverpool has been steadily reduced during recent years by means of administrative action, co-operation with the users of boiler-plant and increased use of gas and electricity for power and process purposes. The alterations and improvements carried out during the year are as follows:—

New steam boilers installed to give increased power ...	21
Central heating boilers installed	37
Mechanical stokers fitted to steam and heating boilers...	43
Chimneys erected or extended to give increased draught	19
Other improvements	54

There has again been a large increase in the number of small mechanical stokers adopted to vertical and locomotive type boilers and central heating plant. Over 50 per cent. of the laundries in the city have now been fitted with these stokers. These machines are all of the "under feed" type, being a compact arrangement of screw feed and forced draught fan. They invariably use small grade bituminous coal, and as the raw fuel is fed underneath the glowing fuel in the furnaces, the correct setting of the controls ensures efficient smokeless combustion.

Complaints.—During the year, 72 complaints were received regarding smoke and fumes from industrial chimneys and a remedy was found in every sustained case. In 23 cases the nuisance was abated by increasing the chimney height or by structural alterations to the boiler-plant. A change of fuel was made in 14 cases with satisfactory results, and in 7 other cases an entire new plant was installed. In the remaining 28 cases, an abatement of the nuisance was brought about by systematic observations and advice as to firing methods. These complaints necessitated 522 visits and periodical observations.

Smoke Nuisance from Steamers.—The river Mersey and the Liverpool docks are included in the regular observation work, and were subject to

supervision during the year. On the whole, the regular traders to the port are making efforts to conform to the prescribed smoke standards and the smaller river craft are fully aware that excessive smoke is prohibited. During the year there were 32 reports of excessive smoke emission from steamers in dock and on the river, 18 of which related to foreign-going steamers. In every case the owners were communicated with in respect of the nuisance. In the remaining cases, 7 informations were laid and in 6 cases convictions were obtained.

Railway Smoke.—During the year, measurements of atmospheric pollution have been made in the neighbourhood of railway tunnels and cuttings, and the degree of contamination has been compared with records obtained by means of an automatic air filter at a situation some little distance away. It was found that there is a considerable rise of pollution in the vicinity of tunnel openings. The L.M. & S. Railway Company are now trying a series of experiments in methods of firing locomotives with the object of mitigating the nuisance. Measurements of the air pollution are being continued to ascertain if improvement is being effected.

Domestic Smoke.—There is no legislation governing domestic smoke, but by means of propaganda, exhibitions, etc., the public are becoming enlightened to the advantages of domestic smoke abatement. Nevertheless, much more will have to be accomplished before there is a discernible improvement in smoke pollution from domestic sources. The gas and electricity industries show considerable increases in the sale of their products, and greatly increased use is made of solid smokeless fuels. The demand for domestic coal in Liverpool during the winter months is approximately 17,000 tons per week, and the demand for solid smokeless fuel is approximately 2,000 tons per week.

The Firing of Domestic Chimney Flues.—This is the most obnoxious of smoke nuisances. Wilfully to fire chimney flues or to allow them to become so dirty that they inadvertently fire themselves, to the detriment of the surrounding district, shows a lack of communal responsibility and neighbourly consideration. House flues should be swept and cleaned at least twice a year where bituminous coal is used as fuel.

Prosecutions for this class of offence are carried out by the police, who are thus assisting greatly in the prevention of atmospheric pollution.

The number of prosecutions for this form of offence during the current year was 1,826, compared with 2,345 for the previous year.

Lectures on Smoke Abatement and Fuel Economy.—These lectures, designed for works managers, engineers and others interested in the scientific and rational use of coal, are contributing materially to the solution of the industrial smoke problem. Forty-five students enrolled for the 1938 winter course, and since the commencement of the class six years ago, 440 students from most of the large firms in the area have attended the lectures. Experience has shown that the majority of the Liverpool firms are co-operating, and it is appreciated that in regard to smoke abatement, manufacturers are willing to follow suitable suggestions for efficient and smokeless working of their industrial furnaces.

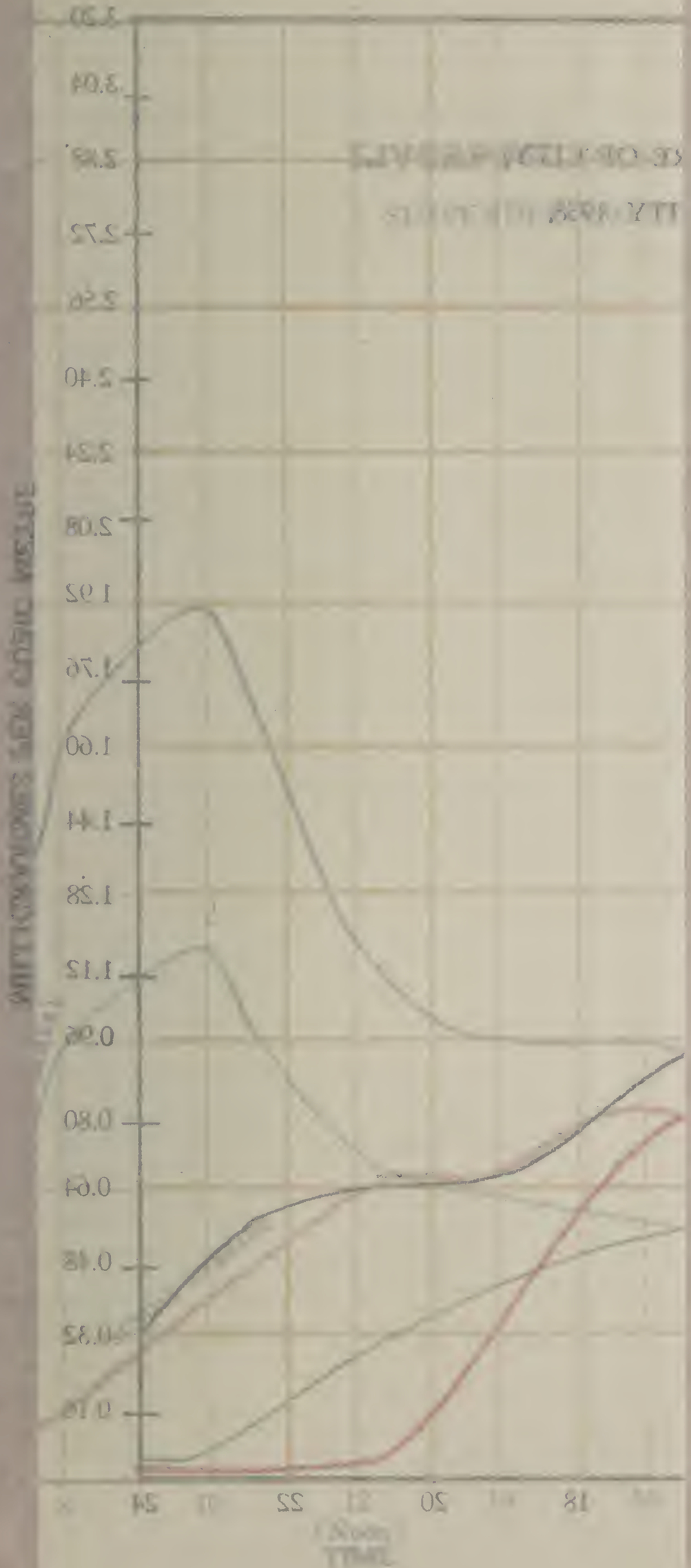
Action taken in respect of Smoke Nuisances.—Proceedings for the abatement of nuisances by the emission of excessive smoke from factories, steamers, etc., were taken under the Liverpool Corporation Act, 1936, and the Public Health Act, 1936.

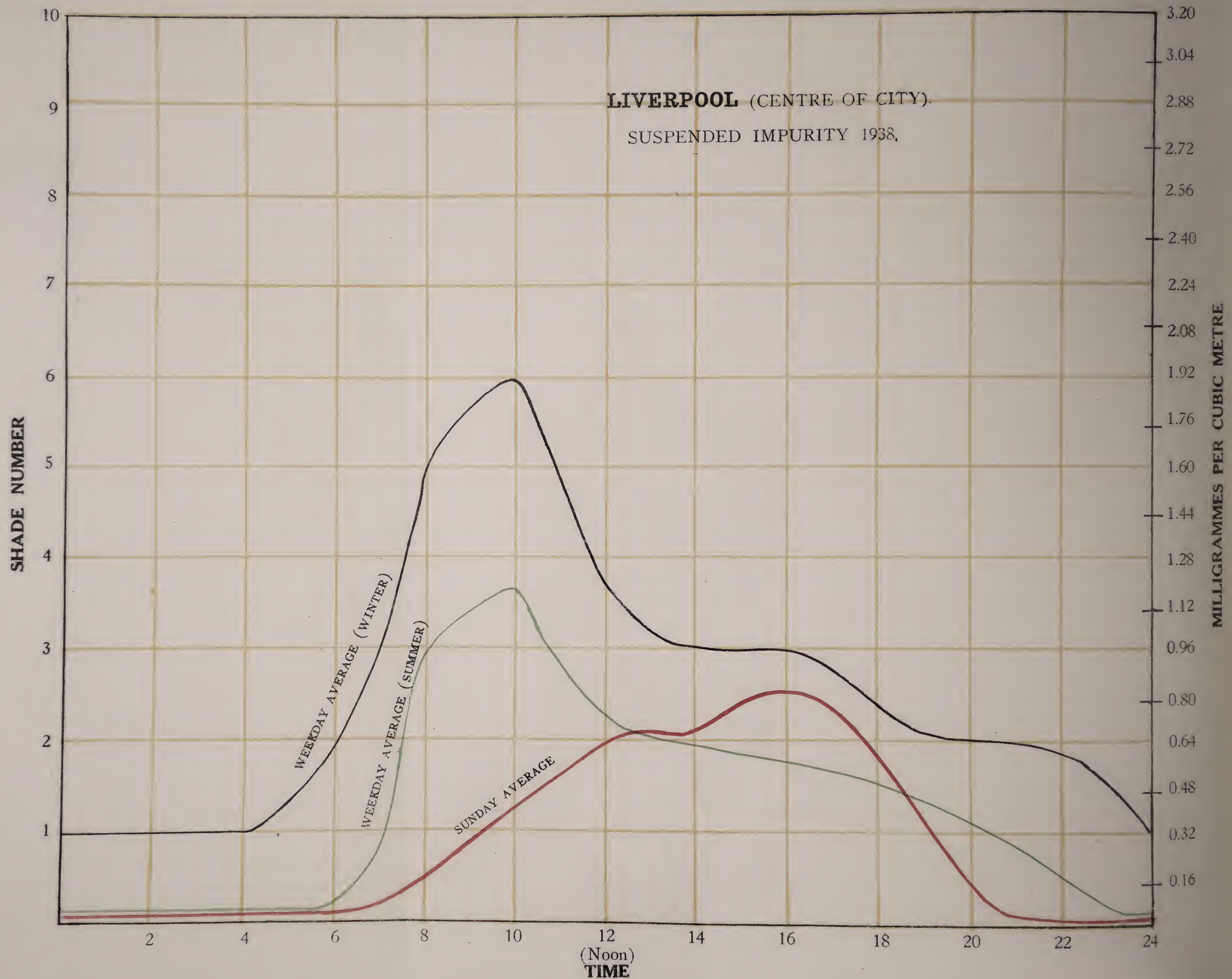
Thirty-two owners were communicated with in respect of nuisances caused by the emission of excessive smoke from steamers, and 185 manufacturers and 38 steamship owners were cautioned for unnecessary smoke. Ten informations were laid and in nine cases convictions were obtained. The amount of fines was £6 4s. 0d.

Action under the Public Health Act, 1936:—

Number of chimney observations recorded	2,439
,, ,, minutes black smoke emitted	1,458
Average minutes black smoke per hour recorded	1·2
,, ,, all ,, ,, ,, ,, ...	5·5
Number of reports for black smoke emission	26
,, ,, statutory notices issued	19
,, ,, advisory visits	297

Proceedings in several cases were postponed to allow reconstruction and alterations to be made to furnaces. One very large firm in the centre of the city, against whom action had been taken on many occasions for smoke nuisances, closed down. In another case a large firm in the Garston area, whose smoke emission caused inconvenience at the Air Port, was prosecuted and fined for not complying with a Magistrates Prohibition Order.




LIVERPOOL (CENTRE OF CITY).
SUSPENDED IMPURITY 1938.
SHADE NUMBER
MILLIGRAMMES PER CUBIC METRE
WEEKDAY AVERAGE (WINTER)
WEEKDAY AVERAGE (SUMMER)
SUNDAY AVERAGE
10
9
8
7
6
5
4
3
2
1
3.20
3.04
2.88
2.72
2.56
2.40
2.24
2.08
1.92
1.76
1.60
1.44
1.28
1.12
0.96
0.80
0.64
0.48
0.32
0.16
2
4
6
8
10
12
(Noon)
14
16
18
20
22
24
TIME

West Lancashire and Cheshire Regional Smoke Abatement Committee.

The local authorities comprising this Committee are:—Liverpool, Birkenhead, Bootle, Wallasey, St. Helens, Widnes, Preston, Bebington, Crosby, Lancashire C.C., the Urban District Councils of Huyton-with-Roby, Litherland, Neston, Ormskirk, Prescot, and the Rural District Councils of West Lancashire and Whiston.

The Executive Committee met as required during the year and acted in an advisory capacity on problems connected with smoke abatement. Under the aegis of the Committee and the Public Health Department, an exhibition on Smoke Abatement and Fuel Economy was held at the Renshaw Hall, Liverpool, during two weeks in September. The exhibition was arranged to illustrate the damage and ill effects caused by smoke, the apparatus and methods used for the measurement of atmospheric pollution and practical methods for securing abatement. The estimated attendance at the exhibition was 80,000 and by means of extensive propaganda the smoke nuisance was given wide publicity.

Atmospheric Pollution.

Measurements of the suspended matter in the atmosphere have been recorded during the year by means of an *Owen's Automatic Air Filter*. This machine is designed to measure suspended impurities in the air by filtering two litres of air at regular intervals through a disc of white filter paper.

It was found that winter pollution in the centre of the city is double that of summer and that during periods of fog the amount of suspended matter increases very greatly. Average daily readings show that from midnight to 6 a.m. the pollution is practically nil, at 7 a.m. a steep rise occurs until the maximum for the day is reached between 8 a.m. and 10 a.m.; after a sharp fall, the readings fluctuate between narrow limits until 6 p.m. and then fall gradually to nil at midnight (see chart facing this page). The suspended impurity recorded near the vicinity of railway cuttings was three times as great as that obtained in another position in the same vicinity not directly affected by railway smoke.

There are now in use in Liverpool four standard deposit gauges, one situated in Netherfield Road since 1921, another situated in the grounds of the Carnegie Welfare Centre, Mount Pleasant, since March, 1929,

and two others situated on the roof of St. George's Hall and on the roof of the Aigburth Vale High School for Girls respectively, both of which came into use at the beginning of 1934.

The Netherfield Road gauge indicates the conditions which apply to a thickly-populated area in which there aré also works and factories; the gauge at St. George's Hall is in a district in which there are many offices and hotels but not a very large population; the gauge at the Carnegie Welfare Centre is in a fairly thickly populated residential district with practically no works; while the gauge at Aigburth Vale is in a residential district with large open spaces.

The principal figures are as follows, expressed in tons per square mile:—

	Aigburth Vale Gauge.	Carnegie Gauge.	St. George's Hall Gauge.	Netherfield Road Gauge.
Undissolved matter	73·78	222·32	165·74	279·04
Dissolved matter	108·85	146·62	201·28	164·51
Total solids	182·63	368·94	367·02	443·55
Acidity as H_2SO_4	7·86	13·01	18·09	4·50
Chlorine as Cl.	37·87	41·23	69·68	32·58
Ammonia as NH_3	0·29	0·45	0·83	2·94
Sulphate as SO_3	17·00	29·44	30·76	40·41
Lime as CaO	8·33	14·31	14·45	13·45
Rainfall in inches	34·03	33·10	30·47	26·20

During the year the rainfall at Aigburth Vale was 10 per cent., at Carnegie Welfare Centre 17 per cent., and at St. George's Hall 27 per cent. greater than in 1937. The total matters deposited at Aigburth Vale were 25½ tons per square mile more than in 1937. At the Carnegie Welfare Centre they were approximately 35 tons and at St. George's Hall 52 tons greater than during 1937. All the collections from each gauge during the year were acid in character.

Owing to breakage of containers the collections for April and October at Netherfield Road were lost in transit to the laboratories. No comparison with the results obtained in 1937 can, therefore, be made.

Details of the analyses month by month at the four stations are given in the following tables:—

Atmospheric Pollution, 1938. (*Aigburth Vale*).

RESULTS OF ANALYSES BY THE CITY ANALYST. (RESULTS CALCULATED IN TONS PER SQUARE MILE).

	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	October.	Nov.	Dec.	Total for 12 months
Sum Total Solids	17·99	13·85	9·20	9·70	13·68	15·77	11·39	15·46	8·42	42·48	10·21	14·48	182·63
UNDISSOLVED MATTER—													
Tarry Matter and Bitumen	0·20	0·17	0·20	—	0·10	0·10	0·17	0·20	0·10	0·07	0·10	0·07	1·48
Other Organic Matter	2·19	2·05	1·85	2·02	2·93	3·54	2·19	3·00	1·92	3·17	1·42	1·82	28·10
Mineral Matter	4·82	4·28	3·78	4·14	4·58	3·54	3·37	3·47	3·10	3·40	2·29	3·43	44·20
Total Undissolved Matter	7·21	6·50	5·83	6·16	7·61	7·18	5·73	6·67	5·12	6·64	3·81	5·32	73·78
DISSOLVED MATTER—													
Organic Matter by Ignition	3·87	3·81	1·62	1·52	3·20	5·86	2·56	3·50	1·55	25·60	3·67	4·85	61·61
Mineral Matter	6·91	3·54	1·75	2·02	2·87	2·73	3·10	5·29	1·75	10·24	2·73	4·31	47·24
Total Dissolved Matter	10·78	7·35	3·37	3·54	6·07	8·59	5·66	8·79	3·30	35·84	6·40	9·16	108·85
Acidity as H_2SO_4	0·27	0·13	0·20	0·03	0·64	0·61	0·71	1·79	0·34	1·35	0·61	1·18	7·86
Chlorine as Cl.	4·31	2·53	1·15	0·84	1·41	2·46	2·06	1·62	0·71	15·06	2·76	2·96	37·87
Ammonia as NH_3	0·07	0·03	0·01	—	0·02	0·03	0·01	0·03	—	0·03	0·03	0·03	0·29
Sulphate as SO_3	1·35	1·18	0·74	0·77	1·48	1·82	1·21	2·63	0·67	1·99	0·94	2·22	17·00
Lime as CaO	0·20	0·64	0·40	0·44	0·71	0·98	0·27	0·88	0·34	1·92	0·47	1·08	8·33
RAINFALL — Millimetres	84·61	19·83	26·44	6·61	70·07	76·68	101·13	115·01	42·97	125·59	89·90	105·76	864·60
RAINFALL — Inches	3·33	0·78	1·04	0·26	2·76	3·02	3·98	4·53	1·69	4·94	3·54	4·16	34·03
pH. Value	4·3	4·9	4·1	5·5	3·9	3·9	4·0	3·7	3·9	3·8	4·0	3·8	—

Atmospheric Pollution, 1938. (*Carnegie Welfare Centre, Cambridge Street.*)

RESULTS OF ANALYSES BY THE CITY ANALYST (CALCULATED IN TONS PER SQUARE MILE).

	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	October.	Nov.	Dec.	Total for 12 months.
Sum Total Solids	49·17	24·74	30·88	23·00	37·19	35·48	35·18	30·81	19·48	40·86	23·16	18·99	368·94
UNDISSOLVED MATTER—													
Tarry Matter and Bitumen	0·66	0·23	0·39	0·23	0·43	0·53	0·33	0·43	0·20	0·26	0·33	0·13	4·15
Other Organic Matter	9·59	4·24	5·91	5·35	7·65	8·87	7·55	7·68	3·91	4·76	4·53	3·65	73·69
Mineral Matter	18·72	11·63	14·59	11·83	15·57	14·78	13·70	11·86	8·67	7·46	7·59	8·08	144·48
Total Undissolved Matter	28·97	16·10	20·89	17·41	23·65	24·18	21·58	19·97	12·78	12·48	12·45	11·86	222·32
DISSOLVED MATTER—													
Organic Matter by Ignition	7·32	4·70	5·22	2·47	7·43	6·47	7·29	4·73	3·91	20·17	5·36	2·53	77·60
Mineral Matter	12·88	3·94	4·77	3·12	6·11	4·83	6·31	6·11	2·79	8·21	5·35	4·60	69·02
Total Dissolved Matter	20·20	8·64	9·99	5·59	13·54	11·30	13·60	10·84	6·70	28·38	10·71	7·13	146·62
Acidity as H_2SO_4	1·91	0·43	0·33	0·07	1·38	0·82	1·12	2·00	0·66	1·54	1·24	1·51	13·01
Chlorine as Cl.	6·44	2·73	2·04	1·08	2·33	2·56	2·92	2·20	1·12	11·37	3·88	2·56	41·23
Ammonia as NH_3	0·13	0·03	0·03	—	0·03	0·02	0·03	0·07	0·02	0·03	0·03	0·03	0·45
Sulphate as SO_3	4·17	1·58	2·17	1·22	3·09	2·53	2·66	3·02	1·64	3·35	1·91	2·10	29·44
Lime as CaO	1·74	0·76	1·31	0·82	1·45	1·35	1·22	1·02	0·85	1·58	1·45	0·76	14·31
RAINFALL — Millimetres	68·32	19·34	28·36	6·45	63·16	52·85	95·39	132·77	54·78	123·74	95·39	99·90	840·45
RAINFALL — Inches	2·69	0·76	1·12	0·25	2·49	2·08	3·76	5·23	2·16	4·87	3·76	3·93	33·10
pH Value	3·6	3·7	3·9	5·3	3·7	3·7	3·9	3·7	3·8	3·7	3·8	3·7	—

RESULTS OF ANALYSES BY THE CITY ANALYST (RESULTS CALCULATED IN TONS PER SQUARE MILE).

	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	October.	Nov.	Dec.	Total for 12 months.
Sum Total Solids	38·41	24·59	24·79	21·93	23·98	27·69	26·31	26·34	18·32	81·87	31·03	21·76	367·02
UNDISSOLVED MATTER—													
Tarry Matter and Bitumen	0·20	0·20	0·13	0·10	0·10	0·20	0·20	0·27	0·20	0·27	0·23	0·10	2·20
Other Organic Matter	4·79	3·47	4·28	3·91	4·08	5·09	5·12	6·33	3·94	6·30	3·74	3·44	54·49
Mineral Matter	10·51	7·95	10·95	9·50	10·64	7·51	10·04	10·58	7·95	9·27	6·91	7·24	109·05
Total Undissolved Matter	15·50	11·62	15·36	13·51	14·82	12·80	15·36	17·18	12·09	15·84	10·88	10·78	165·74
DISSOLVED MATTER—													
Organic Matter by Ignition	8·42	4·55	3·50	4·55	4·58	9·30	6·27	4·58	3·23	35·91	9·20	5·02	99·11
Mineral Matter	14·49	8·42	5·93	3·87	4·58	5·59	4·68	4·58	3·00	30·12	10·95	5·96	102·17
Total Dissolved Matter	22·91	12·97	9·43	8·42	9·16	14·89	10·95	9·16	6·23	66·03	20·15	10·98	201·28
Acidity as H_2SO_4	1·41	0·71	0·54	0·27	1·28	1·41	1·45	2·39	0·77	3·34	2·16	2·36	18·09
Chlorine as Cl.	8·76	4·38	2·63	2·29	2·53	4·41	2·93	2·63	1·62	26·38	7·01	4·11	69·68
Ammonia as NH_3	0·13	0·07	0·20	—	0·13	0·02	0·02	0·07	0·02	0·07	0·03	0·07	0·83
Sulphate as SO_3	2·90	1·55	1·72	1·52	1·92	2·56	2·02	3·13	1·21	6·87	3·00	2·36	30·76
Lime as CaO	1·01	0·94	1·08	1·01	0·98	1·38	0·77	0·98	0·64	3·20	1·55	0·91	14·45
RAINFALL — Millimetres	66·10	13·22	21·15	5·29	64·12	60·81	76·68	128·23	48·91	113·69	85·93	89·90	774·03
RAINFALL — Inches	2·60	0·52	0·83	0·21	2·52	2·39	3·02	5·05	1·93	4·48	3·38	3·54	30·47
pH. Value	3·7	3·4	3·7	4·9	3·7	3·6	3·7	3·7	3·7	3·5	3·6	3·6	—

Atmospheric Pollution, 1938. (332, *Netherfield Road*).

RESULTS OF ANALYSES BY THE CITY ANALYST. (RESULTS CALCULATED IN TONS PER SQUARE MILE).

	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	October	Nov.	Dec.	Total for 10 months.
Sum Total Solids	55·44	51·67	30·53	—	67·73	39·87	36·48	42·98	29·46	—	42·87	46·52	443·55
UNDISSOLVED MATTER—				BOTTLES BROKEN IN TRANSIT AND CONTENTS COMPLETELY LOST.						BOTTLES BROKEN IN TRANSIT AND CONTENTS COMPLETELY LOST.			
Tarry Matter and Bitumen	1·07	0·42	0·46		0·53	0·39	0·34	0·55	0·18		0·58	0·47	4·99
Other Organic Matter	8·61	6·88	4·81		10·43	8·13	7·13	8·37	5·71		7·02	7·86	74·95
Mineral Matter	18·69	26·96	10·78		40·04	16·31	13·67	16·99	15·03		17·97	22·66	199·10
Total Undissolved Matter	28·37	34·26	16·05		51·00	24·83	21·14	25·91	20·92		25·57	30·99	279·04
DISSOLVED MATTER—													
Organic Matter by Ignition	13·53	6·04	6·82		6·37	7·16	6·42	7·65	3·30		6·75	4·90	68·94
Mineral Matter	13·54	11·37	7·66		10·36	7·88	8·92	9·42	5·24		10·55	10·63	95·57
Total Dissolved Matter	27·07	17·41	14·48		16·73	15·04	15·34	17·07	8·54		17·30	15·53	164·51
Acidity as H_2SO_4	0·90	—	0·31		0·05	0·31	0·35	0·51	0·03		1·04	1·00	4·50
Chlorine as Cl.	7·89	3·91	3·05		2·79	2·69	2·14	2·36	0·87		4·22	2·66	32·58
Ammonia as NH_3	0·74	0·15	0·23		0·40	0·18	0·21	0·29	0·20		0·29	0·25	2·94
Sulphate as SO_3	5·21	3·82	3·04		4·71	3·56	3·91	4·44	2·60		4·56	4·56	40·41
Lime as CaO	1·64	1·95	1·00		2·19	0·72	0·89	1·18	0·77		1·43	1·63	13·45
RAINFALL — Millimetres	80·39	23·22	27·82		78·09	70·18	69·92	115·35	38·02		82·68	80·13	665·80
RAINFALL — Inches	3·16	0·91	1·10		3·07	2·76	2·75	4·54	1·50		3·26	3·15	26·20
pH. Value	3·9	5·7	3·9		5·5	4·3	4·3	4·3	5·5		3·8	3·8	—

Cleansing and Scavenging.

The City Engineer and Surveyor has kindly supplied the following information, which indicates the operations carried out by the cleansing staff under his control.

The work of the department consists of cleansing and watering the 712 miles of streets within the city, together with their back passages, the periodical emptying of ashbins, street gullies, street and court bins and ashpits, and the disposal of the refuse collected therefrom, etc. During 1938 the quantity of domestic and trade refuse collected by the department was 293,898 tons, and the total quantity disposed of was 320,539 tons. The quantity dealt with per working day was 1,041 tons.

The whole of the 712 miles of streets with their passages, with the exception of a few on the outskirts of the city, are swept weekly, the principal streets, and streets in congested areas, receiving constant daily attention. In addition, certain streets and passages are washed by hose pipe.

Ten sweeping machines are employed regularly, five on night work (three of which collect as well as sweep), covering approximately 100 brush miles of roadway nightly, and five on day work.

On Sunday mornings, in addition to the usual daily attention on week days, a number of the principal streets and streets in congested areas are cleansed, and all street and court bins emptied.

During 1938, 23,636 tons of street sweepings were collected and disposed of as manure and top dressing.

Three mechanical gully emptiers are now in use, which perform the work in a very satisfactory and sanitary manner.

In connection with street watering, 987,090 gallons of water were distributed during the season.

The frequent flushing of trough water closets is a sanitary measure, this type of closet being provided principally in the more densely populated areas of the city. The number of trough water closets in existence at 31st December, 1938, was 352.

There are 31 underground urinals with 283 stalls and 125 overground urinals with 616 stalls in Liverpool, which are cleansed and disinfected at least once daily. During the summer season a large number of urinals and trough water closets are cleansed and disinfected twice daily.

An improved type of fixture ash-bins was first supplied to Liverpool premises in 1898, and at the end of 1938, the number of bins in use of this type was 90,846, the number of ashpits being reduced from 65,000 to 1,075. In addition, more than 112,000 loose bins are in use. In the year 1900 an improved sanitary ashbin was introduced for the use of courts, some of which have been removed owing to property being demolished. The number in use at the end of the year was 626, which are emptied daily. Ashbins and ashpits belonging to domestic premises are emptied approximately once weekly. The bell-cart service provides for the daily removal of domestic and trade refuse from shops and business premises, also from dwelling-houses where no provision can conveniently be made for the storage of this description of refuse.

In 1936 the Corporation obtained further powers to compel the provision of bins in lieu of ashpits.

All ashpit and ashbin refuse is emptied direct into the carts and motors, and all loaded carts and motors traversing the streets are covered.

The refuse collected is disposed of by burning at three destructors, by disposal at sea, by sale to farmers, and by controlled tipping for reclamation of land, operations being carried out in accordance with

the recommendations of the Minister of Health, to comply with which 47,778 tons of soil, etc., were used for covering the refuse disposed of at tips during the year.

During the year 93,309 tons were burned at the destructors, 53,155 tons of refuse and 10,532 tons of heavy covering material were deposited at sea by hopper barge, 6,019 tons were sold to farmers, etc., and 167,170 tons were otherwise disposed of at tips and for agricultural purposes, etc. In addition, approximately 16,200 tons of clinker residue from destructors were used almost entirely in the construction and maintenance of roads and tramways and in the manufacture of mortar and concrete slabs, etc.

The system of street cleansing, known as the *beat system*, is in operation in all districts of the city. Under this system the performance of the work of sweeping by gangs is, with very few exceptions, discontinued, and instead, the work is divided among the men, who may be termed barrow men, each of whom is provided with a trolley containing two galvanised bins. By this method the sweepings are not allowed to remain in heaps, but are shovelled up and deposited at once into bins. Specially adapted motor vehicles, each fitted with platforms large enough to accommodate about 40 bins, visit each man three or four times daily, collecting the full bins and replacing them with clean empty bins. The full bins are transported to the depot, where they are emptied, washed, and sent out again.

This system is more hygienic, and by its operation the necessity for tipping the contents of barrows and handcarts on to the street surface and the subsequent loading into the transporting vehicle, is entirely removed.

The byelaw against street littering has now been in operation for six years, and experience shows that the members of the public are displaying a tendency to co-operate with the Corporation in keeping

the streets clean. Cases continue to occur, however, in which the Corporation feels compelled to institute proceedings against persons contravening the bye-law, and there is room for greater public effort to maintain the streets in a tidy condition.

Water Supply.

The following particulars of the main extensions of the water undertaking of the city which were completed or in course of execution during the year, have been kindly supplied by the Water Engineer.

Lake Vyrnwy Supply.

The construction of the third pipeline of the Vyrnwy Aqueduct, at a cost of about £1,200,000, was completed in 1938. The work has provided a substantial increase in the quantity available for supply to the city and surrounding districts, and included the construction of four new slow sand filters at Oswestry, a second bypass main from Llanforda Reservoir to the filter beds, a second instalment of the hydraulically-driven booster pumps, a new tunnel under the River Mersey between Runcorn and Warrington, and other special features. The main for the most part is of 42 inches internal diameter, made of mild steel tubes sheathed and lined with a bituminous compound.

A scheme for the improvement of the supply to the Garston area to provide for the development of Speke was put in hand, including the laying of a new 24-inch main with subsidiary branch mains, and work was commenced on the construction of a new reinforced concrete balancing reservoir of 3 million gallons capacity.

In addition to the above, many miles of service mains for the improvement of the supply and development of the area have also been laid.

Liverpool Corporation Swimming Baths.

The following information concerning the Liverpool Corporation swimming baths has been kindly supplied by the Baths Manager:—

	Name of Bath.	No. of Plunges.	Capacity in Gallons.	Nature of Water Supply.	Frequency of Renewal.	Filtration.	Chlorination.	Frequency of Chemical Check.
Covered Baths.	Harold Davies ...	3	175,000	City water mains	Continuous filtration	Filtration with coagulant	Continuous Chlorination	Four times a day
	Lister Drive ...	2	122,800					
	Lodge Lane ...	2	121,300					
	Margaret Street ...	2	129,100					
	Picton Road ...	2	110,200					
	Queens Drive ...	2	128,400					
	Speke Road ...	2	122,300					
	Steble Street ...	2	110,100					
	William Roberts ...	3	175,000					
	Woolton	1	43,875					
	Burroughs Gardens	2	55,119	River water				
	Cornwallis Street	3	127,500					
	Westminster Road	2	146,706					
Open-air Baths.	Burlington Street ...	1	94,500	City water mains				
	Gore Street ...	1	70,333					
	Green Lane ...	1	73,456					
	Mansfield Street ...	1	45,706					
	Queens Drive ...	1	45,706					
	Stanley Park ...	2	188,131					

All swimming baths are equipped with modern filtration plants, and samples of bath water are frequently submitted to the City Bacteriologist for examination. These samples are almost invariably found to reach a drinking water standard, presenting less than 10 organisms per c.c. when grown at 37° or 22° C. and containing no bacillus coli in 100 c.c.s of the sample. This is a satisfactory degree of cleanliness.

FOOD INSPECTION

including the supervision of dairies, the cleanliness of milk and ice-cream, tuberculous milk, diseases of cattle, and adulteration of food and drugs.

INSPECTION OF FOOD.

The duties in connection with the supervision of food supplies imposed upon the officers of the Health Department by various Acts and Orders are carried out by a fully qualified staff of food inspectors. They entail the examination of the carcases of animals slaughtered for food at the abattoir and private slaughter-houses; the inspection of meat, fish and fruit at the various wholesale and retail markets and cold stores; and the inspection of shops, factories, etc., where foodstuffs are sold, prepared or stored for human food. A number of inspections are also made of food purchased under contract by the Hospitals and Port Health Committee and the Education Committee. In some instances goods supplied were not according to contract and consequently were returned to the contractor.

A numerical summary of the visits paid to premises by the food inspectors is given in Table I.

TABLE I.

VISITS PAID TO PREMISES BY THE FOOD INSPECTORS.

Slaughter-houses.	Butchers' shops.	Fruit shops.	Fish & Fruit shops.	Food Hawkers' premises.	Jam factor-ies.	Pickle factor-ies.	Ice Cream premises	Food factories	Knackers' yards.	Total visits paid.
456	16,204	20,360	19,523	2,383	54	68	2,467	760	20	62,295

Knackers' Yards.

A "knackers' yard" means a building or place used for the slaughter of horses, asses, mules and cattle, the flesh of which is not intended for use as human food. There are two such knackers' yards in Liverpool.

Private Slaughter-houses.

There are eight private slaughter-houses in the city at which, during 1938, 1,620 animals were slaughtered. All the carcases are inspected before being taken from the premises. One of these slaughter-houses is used solely for the slaughter of horses for export abroad as human food.

The Public Slaughter-house or Abattoir.

Slaughtering may take place at the abattoir at any time during the day or night. It is continuous during one night per week, and sometimes during two, Sunday being a very busy day. The work of inspection of animals and meat, therefore, is almost continuous.

During the slaughter of calves a close watch is kept for evidence of tuberculosis, and several instances have occurred of marked infection in very young animls. Where the origin of the animal is known inquiries are made as to the source of the infection. It may have been from the milk which has been used as food or congenital infection from the mother. In the latter event the mother is slaughtered under the Tuberculosis Order of 1938.

The carcases of 12,097 animals showed abnormal conditions, and a detailed examination was made in each case.

During the year, 2,410 carcases were rejected as being unfit for human food. Of these, 1,465 were destroyed at the abattoir and 945 were destroyed at knackers' yards.

During 1938, 558,544 animals of different kinds were slaughtered in Liverpool for human food. An analysis of this figure is given in Table II.

TABLE II.

NUMBER OF ANIMALS SLAUGHTERED IN LIVERPOOL FOR HUMAN FOOD.

	Bulls	Bullocks	Cows	Heifers	Calves	Sheep and Lambs	Swine	Horses
Public Abattoir	1,991	27,848	16,479	4,331	21,874	427,364	57,037	—
Private Slaughter-houses	—	—	—	—	2	87	1,326	205
TOTALS	1,991	27,848	16,479	4,331	21,876	427,451	58,363	205

Many carcases of home-killed animals are brought into Liverpool from other districts. A summary is given in Table III.

TABLE III.

CARCASES OF ANIMALS (HOME-KILLED) BROUGHT INTO LIVERPOOL FROM OTHER DISTRICTS.

Brought into the—	Beef.	Veal.	Mutton.	Lamb.	Pork.
Meat Market	5,108	1,084	431	4,720	6,942
Factories, Shops, etc. ...	86	24	26	963	565
TOTALS	5,194	1,108	457	5,683	7,507

In addition to the above, 15,187 boxes or packages of home-killed offal were dealt with in the meat market, and 8,499 cuts of pork were examined at premises in the city.

A large number of carcases of imported meat, both frozen and chilled, pass through the meat market. The figures for 1938 are given in Table IV.

TABLE IV.

CARCASES OF IMPORTED (FROZEN AND CHILLED) MEAT PASSING THROUGH THE MEAT MARKET.

Beef.	Veal.	Mutton.	Lamb.	Pork.
64,715	269	113,665	666,273	15,551

In addition to the above, 20,161 cuts of beef and 179,141 boxes and packages of imported meat and offal were dealt with in the meat market.

12,943 lbs. imported beef and 1,022 lbs imported offal were destroyed for unsoundness, chiefly mould and brine damage.

Diseased Conditions.

A description of the diseased conditions found during 1938 which led to the total or partial destruction of carcases is given in Table V.

TABLE V.

DISEASES FOR WHICH CARCASES WERE TOTALLY OR PARTIALLY DESTROYED AS INDICATED IN THE TABLE.

Disease.	No.	Disease.	No.
Abscess (partial)	103	Malignant Neoplasm	6
Actinomycosis (partial)	2	Melanosis (total)	1
Arthritis, Septic (total)	35	,, (partial)	8
,, Simple (partial)	384	Moribund	24
Asphyxia	207	Nephritis Septic	4
Caseous Lymphadenitis	1	Pyæmia	15
Contamination (partial)	17	Peritonitis Septic	25
Decomposition (total)	12	Pneumonia	12
,, (partial)	27	Pleurisy	7
Distomatosis	106	Pleurisy (partial)	19
Dropsy	196	Presternal Calcification	3
Emaciation	54	Septicæmia	8
Enteritis	228	Septic Mastitis	12
Gangrene	1	,, Metritis	2
Immaturity	10	,, Pericarditis	1
Injury (total)	14	Swine Fever	52
,, (partial)	506	Swine Erysipelas	8
Jaundice	17	Tuberculosis (total)	396
Johnes Disease	3	,, (partial)	783
Joint Ill	8	Urticaria (partial)	37

In the routine ante and post mortem examination of pigs several cases of Swine Fever were detected, and subsequently the existence of the disease was confirmed in two herds containing a large number of pigs.

During the year, 615 "contacts", i.e., pigs which had been exposed to infection, were sent to the abattoir on licences issued by the Ministry of Agriculture and Fisheries and were dealt with by the Food Inspectors.

In addition to the above, 216 carcases of pigs, which had been slaughtered and dressed in other districts on account of exposure to infection, were examined before being offered for sale in the meat market. This examination resulted in the destruction of 22 carcases.

In addition to the number of carcases totally destroyed because diseased conditions made them unfit for human food, a number of

organs with localised disease were condemned. A summary is given in Table VI.

TABLE VI.

NUMBER OF ORGANS DESTROYED ON ACCOUNT OF DISEASE, EXCLUSIVE OF ORGANS DESTROYED IN CARCASES TOTALLY CONDEMNED.

Disease.	No.	Disease.	No.
HEADS AND TONGUES :—		HEARTS :—	
Abscess	133	Abscess	53
Actinomycosis	88	Decomposition	146
Contamination	2	Melanosis	3
Decomposition	149	Pericarditis	230
Injury	14	Tuberculosis	3,934
Melanosis	4		
Tuberculosis	5,953	SPLEENS :—	
		Abscess	11
		Decomposition	33
LUNGS :—		Peritonitis	33
Abscess	241	Tuberculosis	1,608
Congestion	11,848		
Contamination	1	STOMACHS :—	
Decomposition	359	Abscess	17
Emphysema	26	Peritonitis	35
Melanosis	11	Tuberculosis	1,597
Pneumonia	1,301		
Pleurisy	1,067	KIDNEYS :—	
Tuberculosis	5,582	Abscess...	14
Unclassified Cystic Conditions...	1,672	Cysts	79
		Cirrhosis	30
		Decomposition	—
LIVERS :—		Nephritis	20
Abscess	387	Tuberculosis	1,626
Cavernous Angioma	515		
Cirrhosis	1,966	UDDERS :—	
Distomatosis	10,187	Abscess	112
Decomposition	332	Actinomycosis	23
Fatty Infiltration	15	Mammitis	1,778
Melanosis	5	Tuberculosis	83
Necrosis	68		
Parasitic	362	INTESTINES :—	
Peritonitis	80	Abscess	14
Tuberculosis	4,415	Peritonitis	33
Unclassified Cystic Conditions...	4,117	Tuberculosis	3,433

Incidence of Tuberculosis in Bovine Animals.

During 1938, 50,649 bulls, bullocks, heifers and cows were killed, of which 4,147 (8·18 per cent.) were affected with tuberculosis and rejected accordingly.

An analysis of these rejections is given in Table VII.

TABLE VII.

ANALYSIS OF REJECTIONS ON ACCOUNT OF TUBERCULOSIS.

	Total number slaughtered.	Carcase and Organs completely rejected.		Carcase and Organs partially rejected.		Rejection of Organs only.		Totals.	
		Number.	Per cent. of animals killed.	Number.	Per cent. of animals killed.	Number.	Per cent. of animals killed.	Number.	Per cent. of animals killed.
BULLS	1,991	9	0·45	97	4·87	180	9·04	286	14·36
BULLOCKS	27,848	16	0·06	61	0·22	525	1·88	602	2·16
HEIFERS	4,331	16	0·37	21	0·48	84	1·94	121	2·79
COWS	16,479	228	1·38	453	2·75	2,457	14·91	3,138	19·04
Totals	50,649	269	0·53	632	1·25	3,246	6·40	4,147	8·18

It is interesting to record that 79 of the 1,991 bulls slaughtered were found to be affected with tuberculosis confined to the superficial inguinal glands.

When a bovine animal is infected with tuberculosis, the lungs and associated lymph glands are the organs most commonly diseased. This is shown in Table VIII, wherein is an analysis of the tuberculous organs found in bovine animals, expressed as a percentage of the total bovine animals infected.

TABLE VIII.

ANALYSIS OF TUBERCULOUS ORGANS IN BOVINE ANIMALS.

Organs infected with tuberculosis.	Number of organs.	Expressed as a percentage of total tuberculous bovine animals.
Lungs and associated lymph glands	3,281	84·60
Liver	2,187	56·39
Intestines	1,851	47·73
Head and associated lymph glands	2,198	56·68
Stomach	1,523	39·27
Spleen	1,537	39·63
Kidneys and genital organs	1,634	42·13

(Table VIII does not include the diseased organs from 269 animals totally rejected.)

Cows with Tuberculous Disease of the Udder.

During the year, 46 cows slaughtered in the ordinary course of trade were found to be suffering from tuberculous disease of the udder. This figure is 0·28 per cent. of the total cows killed.

This number does not include cows slaughtered under the Tuberculosis Order, 1938.

Calves with Tuberculosis.

During the year 21,876 calves were slaughtered. Thirteen carcases were totally rejected on account of tuberculosis, and in 6 cases the carcases were passed after rejection of infected organs.

The following table summarises the number of carcases inspected and condemned during the year.

TABLE IX.

CARCASES INSPECTED AND CONDEMNED.

	Cattle, excluding Cows.	Cows.	Calves.	Sheep and Lambs.	Pigs.
Number killed	34,170	16,479	21,876	427,451	58,363
Number inspected	34,170	16,479	21,876	427,451	58,363
ALL DISEASES EXCEPT TUBERCULOSIS. 1. Whole carcases condemned ...	7	39	74	777	172
2. Carcases of which some part or organ was condemned ...	6,224	10,293	35	3,939	14,517
3. Percentage of number inspected affected with disease other than tuberculosis	18·23%	62·69%	0·49%	1·10%	25·17%
TUBERCULOSIS ONLY. 1. Whole carcases condemned ...	41	228	13	1	113
2. Carcases of which some part or organ was condemned ...	968	2,910	6	...	4,148
3. Percentage of number inspected affected with tuberculosis	2·95%	19·04%	0·08%	·00023%	7·30%

Quantities of Food Materials Condemned.

The quantities of food materials condemned as being unfit for human food are given in Table X.

TABLE X.

FOOD MATERIALS CONDEMNED AS BEING UNFIT FOR HUMAN FOOD.

Beef, Veal, Mutton, Pork.	Offal	Fish.		Crabs, Lobsters, Oysters, Crayfish, Shrimps, Prawns, Scallops, Cockles.	Mussels, and Winkles.	Poultry.	Game.	Rabbits and Hares.	Fruit.	Vegetables.	Nuts, Cokernuts, Almonds, etc.	Eggs.	Canned Food-stuffs.
		Wet.	Dry.			Fowls, Ducks, Geese, Turkeys, etc.	Partridges, Grouse, etc.		Apples, Pears, Bananas Oranges, Lemons, etc.	Potatoes, Cabbages, Sprouts, Onions, Turnips, etc.			
Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Bags.	Head.	Head.	Head.	Lbs.	Lbs.	Lbs.		Lbs.
382,347	813,793	137420	31153	1,675	20	5,045	269	21,950	312,813	284,450	25,508	7,399	17,667

A few samples of food materials were submitted for bacteriological or chemical examination as follows:—

TABLE XI.

SAMPLES OF FOOD MATERIALS SUBMITTED FOR BACTERIOLOGICAL OR CHEMICAL EXAMINATION.

Sausages.	Canned Foodstuffs.	Eggs.	Fruit.	Miscellaneous.
2	3	3	2	—

Fruit, Vegetable and Fish Markets.

In Table XII are given the quantities of fish, rabbits, poultry and game which passed through the Wholesale Market during the year.

TABLE XII.

QUANTITIES OF FISH, RABBITS, POULTRY AND GAME WHICH PASSED THROUGH THE WHOLESALE MARKET.

Fish				Rabbits.	Poultry.	Game.
Wet Fish.	Dry Fish.	Shell-Fish.	Salmon.			
16,224 tons	4,114 tons	817 tons	86 tons	14,120 packages	7,899 packages	49 packages

The figures in Table XII include only the quantities of these food materials dealt with by firms associated with markets controlled by the Markets Committee.

The wholesale depôt in Queen Square and the Wholesale Fruit Market are two of the principal distributing centres in the country for imported fruit. During the year, 105,936 tons of vegetables passed through the Vegetable Markets.

Public Health (Meat) Regulations, 1924.

These Regulations are based on the recommendations of the Departmental Committee on Meat Inspection. They are designed to secure more adequate inspection of animals slaughtered in this country as well as improvements in the handling, transport and distribution of meat.

The objectionable practice of exposing meat in open shop fronts has ceased. However, carcases and meats brought to Liverpool for sale

from other places by road, rail or steamer are sometimes insufficiently protected from contamination. It was not found necessary to prosecute under these Regulations during 1938.

The use of a thin transparent wrapping or covering for foodstuffs exposed for sale in shop windows, on counters or in show-cases is becoming more frequent and is a great help in the protection of food from dust, flies and handling.

The Tuberculosis Order, 1938.

This Order aims at the destruction of cows suffering from tuberculosis in a form that is a source of danger to human beings and to other animals. During 1938, 43 cows were slaughtered under this Order at the City Abattoir.

In Table XIII are given the number of animals dealt with during the year, and the nature and degree of disease from which they suffered.

TABLE XIII.

CATTLE SLAUGHTERED AT THE CITY ABATTOIR UNDER THE TUBERCULOSIS ORDER, 1938.

Year.	Number of cows slaughtered.	Classification of the Disease.				Result of Post-mort examination.	
		Tuberculous disease of the udder.	Giving tuberculous milk.	Tuberculous emaciation.	Chronic cough and definite signs of tuberculosis.	Advanced disease.	Diseas not advanc
1938	43	28	6	—	9	30	13

Merchandise Marks Act, 1926.

This Act requires an indication of origin to be given in the case of imported foodstuffs. From time to time an Order in Council names a food material which, on importation from abroad, must be labelled "Foreign" or "Empire", or must bear a description of the actual country of origin. The food materials so far named are honey and fresh apples; currants, sultanas and raisins; eggs in shell, both hen and duck, and dried eggs; oat products; raw tomatoes; frozen or chilled salmon or sea trout; butter, poultry; bacon, ham; dead poultry and imported meat.

The marking of imported foodstuffs in this way enables the buying public to distinguish between home-produced food and that which has come from abroad.

It was found necessary to prosecute in two instances under this Act during 1938, both of which were successful.

Agricultural Produce (Grading and Marking) Acts, 1928 and 1931.

These Acts provide for the grading and marking of agricultural and fishery produce of England and Wales, so that the purchaser shall be in the position to know what is the standard of quality of the food that he is buying.

From time to time the Ministry of Agriculture and Fisheries make regulations prescribing "grade designations" for particular commodities and defining the quality indicated by these grade names. For example, the words "Select", "Prime" and "Good" have been chosen to describe three qualities of home-killed beef.

In order that the public may be able to recognise readily a graded food material, it is marked with a prescribed "grade designation mark" consisting of a silhouette map of England and Wales bearing a circular representation of the Union Jack in the centre, around which are the words "Produce of England and Wales". This design has come to be known as "The National Mark". Associated with the National Mark is the grade name descriptive of the quality of the article.

Buyers now realise that the National Mark is a reliable indication of quality, and it is essential that the high standard associated with this mark be maintained.

Slaughter of Animals Act, 1933.

The principal provisions of this Act are two in number, firstly that all animals, except those which are named as exceptions, must be killed or stunned before slaughter by means of a mechanically-operated instrument, and secondly, that all slaughtermen shall be licensed for a period of not exceeding three years, each expiring licence being the subject of renewal on application.

Sheep have until this year been exempt from the provisions of this Act, but by a resolution of the City Council dated 5th October, 1938, are now included.

During the year, the following applications for licences as slaughtermen were received, namely: 16 for new licences, 10 for renewal of existing licences and 336 temporary licences for the slaughter of animals for the food of Mohammedans. In each case the licence was granted.

Liverpool Corporation Act, 1936.

Under Section 78 of this Act all persons who are manufacturers or vendors or dealers in ice cream or manufacturers of preserved meat, together with the premises used for the manufacture for sale or sale of ice cream or the preparation, manufacture or storage of preserved meat must be registered with the Corporation.

During the year, 270 such registrations were issued for ice cream and 374 for preserved meat, and 88 ice cream registrations were withdrawn.

THE SUPERVISION OF DAIRIES, COWSHEDS AND MILKSHOPS.

Under the Milk and Dairies Order, 1926, dairies and dairymen must be registered. The expression "dairy" includes any farm, cowshed or milk-store from which milk is supplied on, or for, sale; and the expression "dairyman" includes any occupier of a dairy, any cowkeeper or any purveyor of milk.

TABLE XIV.

Registration of Dairies.

(*Milk and Dairies Order*, 1926.)

Number of registered dairies at the end of 1937.	New applications for registration.	Registration refused.	Dairies removed from the register.	Number of registered dairies at the end of 1938.
713	39	—	62	690

During the year, 43 dairies were transferred from one owner to another. These opportunities were taken advantage of to effect improvements both in structure and apparatus.

The numbers of registered dairies during the five years 1934-1938 were : 801, 789, 747, 713 and 690 respectively.

Inspection of Dairies.

During the year, 4,260 visits of inspection were paid to dairies. In 20 instances infringements of the Milk and Dairies Order, 1926, were found. In every case the notice of requirements was complied with at once.

The corresponding visits for 1937 were 6,191.

Registration of Dairymen.

The number of registered dairymen is described in Table XV.

TABLE XV.

REGISTERED DAIRYMEN.

Number of registered dairymen on Jan. 1st, 1938.	Applications for registration.	Applications refused.	Ceased to be dairymen.	Remaining on the register, Dec. 31st, 1938.
817	45	—	114	748

Of the 748 dairymen on the register at the end of the year, 58 were milk-hawkers who, having no premises of their own, are registered at the dairy from which they obtain their supplies and where they store their utensils.

Conveyance and Distribution of Milk Churns.

Observations were made at railway stations and other distributing centres to ensure that Sections 28 and 29 of the Milk and Dairies Order, 1926, relating to the marking, construction and cleanliness of milk churns, were complied with. During the year 23 notices were sent to farmers outside the city drawing their attention to defects in milk churns. In every case the defects were remedied.

The Licensing of Places for Keeping Cattle.

(*Liverpool Corporation Act*, 1921.)

Under Sections 475 to 483 of the Liverpool Corporation Act, 1921, every person who keeps cattle shall be required to hold a licence from

the Corporation both in respect of himself and also in respect of the premises. On the licence shall be stated the number and description of the animals. The expression " cattle " includes bulls, cows, heifers, oxen, calves, rams, sheep, wethers, ewes, lambs, swine and goats and all other ruminating animals. The Corporation is required to keep a register of the licences granted, in which are entered particulars of the premises and the cattle.

In Table XVI is a summary of the register of licences in respect of milch cows.

TABLE XVI.

REGISTRATION OF PREMISES ON WHICH MILCH COWS ARE KEPT.

	End of 1937.	End of 1938.
Number of licensed cowsheds...	222	205
Number of cows specified on the licences	4,152	3,892
Approximate average number of cows kept ...	3,070	2,784

During the year one new application for a licence to keep forty-seven cows was received and was granted. Six licences were transferred from one person to another.

A comparison of the numbers of licensed cowsheds during the years 1934-1938, together with the numbers of cows to which the licences referred, is given in Table XVII.

TABLE XVII.

A COMPARISON OF THE NUMBERS OF COWSHEDS AND COWS LICENSED DURING THE YEARS 1934-1938.

Year.	Number of licensed cowsheds.	Number of cows approved.
1934	254	4,790
1935	246	4,615
1936	235	4,439
1937	222	4,152
1938	205	3,892

During the year, 1,222 visits of inspection were paid to cowsheds. Twenty of the cowsheds visited were the subject of notices drawing the attention of the occupiers to contraventions of the Liverpool Corporation Act, 1921. All the notices were complied with, and no prosecutions were necessary nor was any licence forfeited because premises were not properly kept.

A summary of the register of licences in respect of the keeping of pigs and cattle other than milch cows is given on page 207.

The Daily Supply of Milk to Liverpool.

The quantity of milk consumed in Liverpool daily is as follows:—

TABLE XVIII.

DAILY CONSUMPTION OF MILK DURING 1938.

Grade of Milk.	Quantity in Gallons.
Tuberculin-tested (Certified)	100
Tuberculin-tested	1,231
Tuberculin-tested (Pasteurised)	575
Accredited	10,547
Raw ungraded	10,610
Pasteurised under licence	14,715
Heat-treated to pasteurisation standard	7,522
Sterilized	5,079
Total ...	50,379

The relative quantities of milk produced within the city or brought into the city by road or by rail are as follows:—

TABLE XIX.

DAILY SOURCE OF MILK DURING 1938.

Produced from cows kept within the City.	Brought into the City by road.	Brought into the City by rail.
8,352 gallons	37,961 gallons	4,066 gallons

Total, 50,379 gallons.

The growth of road transport during recent years has led to increased difficulties in sampling.

Graded Milk.

The daily quantity of graded milk consumed is given in Table XVIII above. The number of producers and dealers in Liverpool who are licensed in accordance with the Milk (Special Designations) Order, 1936, by the Local Authority, to produce or sell a graded milk, is given in Table XX.

TABLE XX.

PRODUCERS AND VENDORS OF GRADED MILK IN LIVERPOOL.

Nature of licence or licences.	Tuberculin Tested (Certified) Milk	Tuberculin Tested Milk	Tuberculin Tested (Pasteurised) Milk	Accredited Milk	Pasteurised Milk.
Producer only	0	0	0	20	0
Producer and retail vendor	1	1	1	46	5
Retail vendor only ...	6	8	15	23	3

During the year the following changes in licence-holders took place, namely: 1 new licence was issued to a producer only of "Accredited" milk; 1 new licence was issued to a producer-retailer of "Accredited" milk; and the licences of 2 vendors were surrendered.

Lectures on the Hygiene of Milk Production.

A course of 7 lectures and 3 demonstrations on the hygiene of milk production for dairymen, cowkeepers and others interested in this subject was held for the third time, and was attended by 55 students.

An examination held subsequently was taken by 41 candidates, of whom 33 passed.

The Provision of Milk for School Children.

Since January 1st, 1935, pasteurised milk only has been supplied under the Milk Marketing Board's scheme to children in school. At the end of the year thirteen firms were approved as sources of milk for school children, of which twelve actually supplied milk during the year.

The numbers of children who have each consumed a third of a pint of milk daily on five days in each week during each term are as follows :

TABLE XXI.

NUMBERS OF CHILDREN CONSUMING MILK DAILY.

Date	Numbers
March 31st, 1935 ...	70,343
October 1st, 1935 ...	68,969
March 31st, 1936 ...	71,295
October 1st, 1936 ...	76,438
March 31st, 1937 ...	79,061
October 1st, 1937 ...	84,329
March 31st, 1938 ...	89,453
October 1st, 1938 ...	91,374

The attendance of scholars on October 1st, 1938, was 129,453, so that nearly three-quarters (70·5 per cent.) of the children were in receipt of milk daily.

The Supervision of Milk supplied to School Children.

Inspection of Plant. The staff of the Health Department pay regular visits to the premises of approved dairymen both for the purpose of

inspecting the pasteurising plant and to check the accuracy of the temperature control. The full scope of this inspection was described in the report for 1935. A check upon the accuracy of the temperature recorders was made on 74 occasions. On every occasion holding temperatures were found to be correct.

Sampling. Samples of milk were taken regularly in the schools shortly after delivery, and submitted both for bacteriological and chemical examination, the latter including the phosphatase test for efficient pasteurisation.

In Table XXII are given the results of bacteriological examination.

TABLE XXII.

BACTERIOLOGICAL EXAMINATION OF MILK SUPPLIED TO SCHOOL CHILDREN.

Number of Samples.	Number found to be Tuberculous.	Total Bacterial Count.					Coliform Organisms.		
		Over 100,000 per c.c.	Between 50,000 and 100,000 per c.c.	Between 10,000 and 50,000 per c.c.	Between 1,000 and 10,000 per c.c.	Under 1,000 per c.c.	Absent in 1 c.c.	Present in 1 c.c. Absent in $\frac{1}{10}$ c.c.	Present in $\frac{1}{10}$ c.c.
186	1	13	6	27	91	49	140	19	27

It is noteworthy that a large proportion exhibited a high degree of cleanliness as shown by a total count of less than 10,000 organisms (75% of the samples) and the absence of coliform organisms in 1 c.c. (75% of the samples).

In one sample of milk tubercle bacilli were found. This was probably due to a fault in the design of the plant. Investigation of this matter is proceeding.

A comparison of the bacterial quality of the milk supplied by the 13 approved firms is given in Table XXIII.

TABLE XXIII.

School Milk supplied by different Firms.

Number of Samples.	Total Counts.					Coli Counts.		
	Over 100,000.	50,000-100,000.	10,000-50,000.	1,000-10,000.	Under 1,000.	Absent in 1 c.c.	Present in 1 c.c. Absent in $\frac{1}{10}$ c.c.	Present in $\frac{1}{10}$ c.c.
15	3	2	6	4	0	12	1	2
15	3	1	4	6	1	10	1	4
14	0	0	1	8	5	14	0	0
14	0	0	0	4	10	12	1	1
14	0	0	1	12	1	11	2	1
15	0	1	4	10	0	11	1	3
14	2	0	2	8	2	7	3	4
14	1	2	1	4	6	14	0	0
14	0	0	3	7	4	12	1	1
14	0	0	0	3	11	14	0	0
16	3	2	0	8	3	6	6	4
15	0	0	3	9	3	8	2	5
14	0	1	4	5	4	12	0	2
188	12	9	29	88	50	143	18	27

In Table XXIV are given the results of chemical examination, including the phosphatase test.

TABLE XXIV.

CHEMICAL EXAMINATION OF MILK SUPPLIED TO SCHOOL CHILDREN.

Number of Samples.	Fat Content.				Phosphatase Test.	
	4% plus.	3½% plus.	3% plus.	Under 3%	Number of Samples.	Phosphatase Present.
164	18	87	59	—	164	—

It is noteworthy that the majority of the samples (64%) were very rich in cream and that no sample yielded fat below the legal limit.

THE CLEANLINESS OF MILK.

The bacterial content of milk is a measure of the cleanliness of production, handling and storage. During 1938, 224 samples of graded milk and 151 samples of ungraded milk were submitted to the City Bacteriologist for bacterial counts. The results are given in Tables XXV and XXVI below.

TABLE XXV.

BACTERIAL COUNTS IN SAMPLES OF TUBERCULIN TESTED MILK.

Supplied by	Number of Samples	Where taken	Methylene Blue Reduction Test.		Presence or Absence of Coliform Bacilli.			
			Satisfactory.	Unsatisfactory.	Absent in 1 c.c.	Present in 1 c.c.	Present in $\frac{1}{10}$ c.c.	Present in $\frac{1}{100}$ c.c.
A	35	Hospitals and Institutions.	34	1	21	4	5	5
A	24	Child Welfare Centres.	22	2	18	3	1	2
B	13	Do.	13	0	10	2	1	0
C	11	Do.	11	0	9	0	1	1
D	12	Hospitals and Institutions	10	2	4	4	2	2
E	12	Do.	9	3	6	3	0	3
F	1	Do.	1	0	1	0	0	0
G	12	Wholesale depot	12	0	7	3	0	2
H	11	Do.	11	0	9	1	0	1
I	12	Do.	11	1	12	0	0	0
J	5	Do.	5	0	5	0	0	0
K	6	Do.	4	2	1	1	1	3
L	6	Do.	5	1	4	1	0	1
M	11	Do.	11	0	7	1	1	2
N	6	Do.	5	1	4	1	1	0
O	2	Do.	2	0	2	0	0	0
P	4	Do.	4	0	2	0	0	2
Q	4	Do.	4	0	1	2	0	1
*R	10	Do.	10	0	10	0	0	0
*S	3	Milkshop in city	2	1	1	1	0	1
*T	6	Do.	6	0	5	1	0	0
U	1	Do.	1	0	1	0	0	0
V	2	Do.	2	0	1	0	1	0
W	1	Do.	1	0	1	0	0	0
*X	14	Farm in city ...	12	2	10	1	1	2
Totals	224		208	16	152	29	15	28

* Tuberculin Tested Milk (Certified) bottled on the farm.

The bacterial standard for tuberculin tested milk laid down in the Milk (Special Designations) Order, 1936, is that the milk shall satisfy the prescribed methylene blue test, and that coliform bacilli must be absent in $\frac{1}{100}$ c.c. It will be observed that 16 samples failed to pass the methylene blue test and that 28 samples showed an excessive number of coliform bacilli.

TABLE XXVI.

BACTERIAL COUNTS IN SAMPLES OF UNGRADED AND UNTREATED MILK PRODUCED IN LIVERPOOL.

Month.	Number of Samples	Methylene Blue Reduction Test.		Presence or Absence of Coliform Bacilli.				
					Present in			
		Satisfactory.	Unsatisfactory.	Absent in 1 c.c.	1 c.c.	$\frac{1}{10}$ c.c.	$\frac{1}{100}$ c.c.	$\frac{1}{1000}$ c.c.
January ...	15	14	1	5	3	4	2	1
February ...	16	15	1	8	1	6	1	0
March ...	6	5	1	0	2	1	2	1
April ...	16	14	2	4	6	4	1	1
May ...	15	12	3	3	3	4	3	2
June ...	21	14	7	4	4	2	5	6
August ...	13	3	10	0	0	2	1	10
September	13	9	4	3	1	1	4	4
October ...	9	7	2	1	3	3	1	1
November...	7	4	3	0	0	2	1	4
December...	20	15	5	5	5	4	4	2
Total ...	151	112	39	33	28	33	25	32
		74.2%	25.8%	21.9%	18.5%	21.9%	16.6 %	21.2%

The samples of ungraded and untreated milk tabulated in Table XXVI were taken from milk produced in Liverpool by 95 cowkeepers. The milk was from cows milked at 6 a.m., and may have been kept on the counter of the milkshop for several hours before the sample was taken. During this time the milk measure may have been dipped into the milk a number of times as sales have taken place. In these circumstances the results described in Table XXVI create a very favourable impression as to the cleanliness of the milk produced within the city. It will be observed that of the total of 151 samples, 112 satisfied the methylene blue reduction test. Furthermore, 33 showed an absence of coliform bacilli in 1 c.c., and a further 28 exhibited this organism only in so large a quantity of milk as 1 c.c., indicating comparative freedom from manurial contamination.

Ice Cream.

During the year, 2,218 visits of inspection were paid to the premises of 249 makers of ice-cream.

In April, 1933, a memorandum on sanitary and other requirements was issued to all makers and vendors of ice-cream. This memorandum is published in full in the Report for 1932.

During the year, 49 samples of ice-cream were submitted to the City Bacteriologist for bacteriological examination. The results are given in Table XXVII. It is noteworthy that the majority of samples examined show a low bacterial count. This is an improvement on the results for 1937.

TABLE XXVII.

BACTERIAL COUNTS IN ICE CREAM.

1938 Month	Number of bacteria per c.c.					Coliform Bacilli						
							Present in					
	Over 10,000,000	Between 1,000,000 and 10,000,000	Between 100,000 and 1,000,000	Between 10,000 and 100,000	Under 10,000	Absent in 1 c.c.	1 c.c.	$\frac{1}{10}$ c.c.	$\frac{1}{100}$ c.c.	$\frac{1}{1000}$ c.c.	$\frac{1}{10000}$ c.c.	$\frac{1}{100000}$ c.c.
May	—	—	1	5	14	16	2	1	1	—	—	—
June	—	—	7	3	2	6	2	1	2	1	—	—
July	—	—	7	5	5	4	—	3	5	5	—	—
Totals	—	—	15 (30·6%)	13 (26·6%)	21 (42·8%)	26	4	5	8	6	—	—

TUBERCULOUS MILK.

The following propositions on the subject of bovine tuberculosis are well-authenticated and deserve to be widely known:—

(1) Raw milk, as at present distributed for human consumption, shows on an average the presence of living tubercle bacilli in some 12 per cent. of the specimens examined;

(2) About 1,300 children die annually from tuberculous infection of bovine origin, while many others suffer disabling and deforming illnesses;

(3) These disasters are due mainly, if not entirely, to the infection of the children through the milk supply;

(4) Pasteurisation, properly performed, or failing this, the boiling of the milk, reduces the risk of tuberculosis and other milk-borne infections to the vanishing point.

It is evident, therefore, that the examination of milk for the presence of tubercle bacilli is a very important part of the work of a Health Department.

The Examination for Tuberculosis, of Milk produced within the City.

During the year, 301 samples of milk produced within the city were submitted for bacteriological examination for tubercle bacilli with the following results:—

TABLE XXVIII.

THE EXAMINATION FOR TUBERCULOSIS, OF MILK PRODUCED WITHIN THE CITY.

Kind of Milk.	Number of samples.	Tubercle bacilli present.	Percentage tuberculous.
Graded milk	137	13	9·4%
Ungraded raw milk ...	164	11	6·7%

The percentage of samples of raw ungraded milk which proved to be tuberculous, namely 6·7 per cent., is less than that for last year (7·6 per cent), and is considerably less than the percentage of tuberculous samples of milk produced in areas outside the city, namely, 15·5 per cent. (see table XXIX).

The Examination for Tuberculosis, of Milk produced in Areas outside the City.

During the year, 642 samples of milk produced in areas outside the city were submitted for bacteriological examination for tubercle bacilli with the following results:—

TABLE XXIX.

THE EXAMINATION FOR TUBERCULOSIS OF MILK PRODUCED IN AREAS OUTSIDE THE CITY.

Kind of Milk.	Number of samples	Tubercle bacilli present.	Percentage tuberculous.
Graded milk	379	18	4·7%
Ungraded raw milk ...	263	41	15·5%

The percentage of samples of raw ungraded milk on sale to the public which proved to be tuberculous, namely, 15·5 per cent., is higher than last year (13·8 per cent.) and very considerably higher than that for milk produced within the city which is 6·7 per cent.

The following table shows the situation of the areas outside the city from which tuberculous milk was received:—

TABLE XXX.

THE SITUATION OF AREAS WITHOUT THE CITY FROM WHICH MILK SAMPLED FOR TUBERCULOSIS WAS DERIVED.

County.	Description of Milk.	Number of samples.	Tubercle bacilli present.	Percentage tuberculous.
Lancashire	Raw ungraded ...	78	9	11·5%
Cheshire	,, ...	135	27	20·0%
Denbighshire ...	,, ...	12	—	—
Flintshire	,, ...	23	5	21·7%
Shropshire	,, ...	3	—	—
Westmorland ...	,, ...	2	—	—
Aberdeen	,, ...	10	—	—
		263	41	15·5%

THE ADULTERATION OF FOOD AND DRUGS.

The adulteration of food (including milk) and drugs is discovered by sampling followed by chemical analysis. The procedure adopted is that described in the Food and Drugs (Adulteration) Act, 1928. The addition of preservatives to food is now forbidden except in the case of foods mentioned and in respect of the preservatives specified in the Public Health (Preservatives, etc., in Food) Regulations.

During the year a total of 8,197 samples of food and drugs was purchased or taken and submitted for examination. Of these samples 4,429 were formal samples and 3,768 were informal samples.* The results are summarised in Table XXXI.

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* An " informal " sample is one purchased without intimation to the vendor that it is to be analysed. Valuable information as to sources of fraud may sometimes be obtained in this way. Prosecution for adulteration cannot be undertaken, however, until a " formal" sample has been taken subsequently in accordance with the procedure described in The Food and Drugs (Adulteration) Act 1928.

TABLE XXXI.

SUMMARY OF OFFENCES UNDER THE FOOD AND DRUGS (ADULTERATION) ACT, 1928, DURING THE YEAR 1938.

Informal Samples.				Nature of Sample.	Formal Samples.				Number of vendors cautioned.	Informations laid.
Number of samples taken.	Number founde genuin.	Number adulterated.			Number of samples taken.	Number found genuine.	Number adulterated.			
		Seriously.	Slightly.				Seriously.	Slightly.		
2	2	—	—	Arrowroot...	20	20	—	—	—	—
3	3	—	—	Baking Powder	5	5	—	—	—	—
4	4	—	—	Barley	147	140	7	—	5	—
5	5	—	—	Beans, Lentils, Peas, etc. ...	45	45	—	—	—	—
15	14	1	—	Beef Suet and Flours	1	—	1	—	2	—
49	47	2	—	Beer and Stout	—	—	—	—	2	—
27	27	—	—	Bread	—	—	—	—	—	—
392	392	—	—	Butter	2	2	—	—	—	—
15	15	—	—	Cake and Flour Mixtures ...	4	4	—	—	—	—
9	9	—	—	Cake and Biscuits	—	—	—	—	—	—
5	5	—	—	Candied Peel	1	1	—	—	—	—
30	29	1	—	Cheese and Wrapped Cheese ...	1	1	—	—	1	—
27	27	—	—	Cocoa, Chocolate and Mixtures...	48	47	—	1	—	—
28	23	5	—	Coffee and Mixtures and Extracts	65	65	—	—	5	—

SUMMARY OF SAMPLES, &c.—*continued.*

Informal Samples.				Nature of Sample.	Formal Samples.				Number of vendors cautioned.	Informations laid.
Number of samples taken.	Number found genuine.	Number adulterated.			Number of samples taken.	Number found genuine.	Number adulterated.			
		Seriously.	Slightly.				Seriously.	Slightly.		
78	72	3	3	Condensed Milk	—	—	—	—	2	—
122	122	—	—	Confectionery and Sweets ...	6	6	—	—	—	—
55	53	1	1	Condiments and Spices	137	134	1	2	2	—
15	15	—	—	Cornflour	28	28	—	—	—	—
—	—	—	—	Cream of Tartar	10	9	—	1	—	—
48	48	—	—	Cream and Tinned Cream ...	—	—	—	—	—	—
42	42	—	—	Custard Powder	5	5	—	—	—	—
18	16	2	—	Dried Fruits	184	183	1	—	2	—
48	47	1	—	Dripping and Compounds ...	1	1	—	—	1	—
75	73	1	1	Drugs	3	3	—	—	1	—
7	7	—	—	Egg Substitute Powder	1	1	—	—	—	—
—	—	—	—	Flour	28	28	—	—	—	—
3	3	—	—	Fruit Pectin	—	—	—	—	—	—
9	9	—	—	Gravy Salts, etc.	—	—	—	—	—	—
4	4	—	—	Ground Almonds and Substitute	15	15	—	—	—	—

Informal Samples.				Nature of Sample.	Formal Samples.				Number of vendors cautioned.	Informations laid.
Number of samples taken.	Number found genuine.	Number adulterated.			Number of samples taken.	Number found genuine.	Number adulterated.			
		Seriously.	Slightly.				Seriously.	Slightly.		
12	11	1	—	Honey and Mixtures	—	—	—	—	1	—
12	12	—	—	Ice Cream	—	—	—	—	—	
135	131	3	1	Jams, Jellies and Marmalade ...	1	—	1	—	2	—
85	83	1	1	Lard and Compounds	56	55	1	—	1	1
23	23	—	—	Lemon Cheese and Curd ...	—	—	—	—	—	—
115	115	—	—	Margarine	2	2	—	—	—	—
1796	1749	41	6	Milk	2715	2594	90	31	75	37
6	5	1	—	Malted Foods	9	9	—	—	1	—
15	15	—	—	Mincemeat	—	—	—	—	—	—
2	2	—	—	Oatmeal and Preparations ...	46	46	—	—	—	—
14	14	—	—	Olive Oil	—	—	—	—	—	—
5	5	—	—	Prepared Puddings	—	—	—	—	—	—
8	8	—	—	Rice and Ground Rice	244	225	1	18	1	—
2	2	—	—	Sago, Semolina, etc.	47	46	—	1	—	—
8	7	1	—	Sausage	6	5	1	—	2	—
66	64	2	—	Sauces, Chutneys, etc.	—	—	—	—	2	—

SUMMARY OF SAMPLES, &c.—*continued.*

Informal Samples.				Nature of Sample.	Formal Samples.				Number of vendors cautioned.	Informations laid.
Number of samples taken.	Number found genuine.	Number adulterated. Seriously.	Number adulterated. Slightly.		Number of samples taken.	Number found genuine.	Number adulterated. Seriously.	Number adulterated. Slightly.		
1	1	—	—	Self-raising Flour	82	80	—	2	—	—
7	7	—	—	Sugar	114	113	—	1	—	—
21	21	—	—	Syrup and Treacle	—	—	—	—	—	—
—	—	—	—	Tapioca	92	92	—	—	—	—
15	15	—	—	Tea	236	235	—	1	—	—
9	5	3	1	Tinned Beans, etc.	—	—	—	—	2	—
48	45	—	3	,, Fruits	—	—	—	—	—	—
68	64	—	4	,, Vegetables	—	—	—	—	4	—
24	24	—	—	,, and Potted Meats ...	1	1	—	—	—	—
74	65	4	5	,, ,, ,, Fish ...	—	—	—	—	3	—
22	20	2	—	Vinegar	—	—	—	—	2	—
29	27	2	—	Wines and Spirits	17	17	—	—	2	—
11	11	—	—	Miscellaneous	4	4	—	—	—	—
3768	3664	78	26	... ... Total	4429	4267	104	58	120	38

Total Number of Samples, 8,197.

Milk was the food material which accounted for the greatest number of samples, namely, 4,511. All the milk samples were examined for added water, fat deficiency, added colouring matter and added preservative. The results of the legal proceedings taken are given in Table XXXIII below. In no milk sample was any added preservative found.

In Table XXXII is an analysis of where and when milk samples were taken, together with the number of subsequent prosecutions.

TABLE XXXII.

MILK SAMPLES.

Where the samples were taken or purchased.	Number of Samples taken			
	On Week-days.	Subsequent Prosecutions.	On Sundays.	Subsequent Prosecutions.
City Milkshops	1,560	22	336	4
Wholesale Milk Depots	899	11	4	—
Railway Stations	69	—	—	—
Hospitals and Public Assistance Institutions	1,307	—	—	—
Other Hospitals	87	—	—	—
Child Welfare Centres and Day Nurseries	249	—	—	—
	4,171	33	340	4

In the course of the collection of samples enumerated in Table XXXI, 5,488 visits were paid to shops, 40 visits to premises of wholesale dealers in margarine, and 2,559 visits to other places.

In Table XXXIII is a summary of the prosecutions during 1938 for offences under the food and Drugs (Adulteration) Act, 1928, and the Milk and Dairies (Amendment) Act, 1922, together with the fines inflicted and the costs recovered.

TABLE XXXIII.

OFFENCES UNDER THE FOOD AND DRUGS (ADULTERATION) ACT, 1928, AND MILK AND DAIRIES AMENDMENT ACT, 1922.

No. of informations laid.	Nature of Sample.	Nature of Offence.	Result of Legal Proceedings.				
			No. of convictions.	Withdrawn on payment of costs.	Withdrawn and dismissed without costs.	Fines.	Costs.
						£ s. d.	£ s. d
17	Milk	Adulterated with water	17	—	—	22 0 0	19 16 0
18	Milk	Deprived of milk fat	18	—	—	15 0 0	19 19 0
1	Hot Milk	Contained 22% added water and deprived of 22% fat.	1	—	—	0 10 0	1 1 0
1	Milk	Coloured with Annatto	1	—	—	—	1 1 0
1	Lard	Devoid of Lard, and consisted of Hydrogenated Oil.	1	1	—	—	2 2 0
38			38	1	—	37 10 0	43 19 0

Food Poisoning.

No examples of food poisoning came to notice during the year.

Fertilizers and Feeding Stuffs.

During 1938, 106 samples of fertilisers and feeding stuffs were submitted for analysis. It was not necessary to take legal proceedings.

Pharmacy and Poisons Act, 1933.

The Pharmacy and Poisons Act, 1933, regulates the sale of poisons. It is the duty of the Local Authority to carry out Part II of the Act, which deals with the registration of persons selling poisons mentioned in the Poisons List Confirmation Order, 1935. The number of names entered in the register is 510.

REPORT OF THE CITY BACTERIOLOGIST, 1938.

General.—This year the number of examinations made by the Department has increased still further to 105,236 as compared with 100,732 in the preceding year and 83,815 in 1936.

Milk.—During the year, 1,013 samples of raw milk were examined for the presence of tubercle bacilli and these were found to be present in 92 specimens. Since the present methods of examination were instituted four years ago 4,553 samples have been examined and 420 found to contain tubercle bacilli. In view of the interest in the problem of tuberculous infection from milk it is desirable to emphasise that the unheated raw milk of Liverpool continues to provide a serious risk of infection to the community. As has been noted in previous reports the milk provided for children at school is heat treated as required for pasteurisation, and samples are submitted periodically for examination. This year, 189 such samples were examined and none were found to contain tubercle bacilli. During the past four years 828 specimens have been examined and, as noted last year, only 1 specimen was tuberculous. This came from a plant which was found to be defective on inspection during the week in which the sample was collected, the defect being immediately rectified. This year also 307 specimens of milk for school children have been received for examination from areas where heat treatment is not compulsory. Of these 20 were found to contain tubercle

bacilli. During the past four years 1,134 samples from the same sources have provided 82 tuberculous samples.

Period.	Nature of Specimens.	No.	Tubercle bacilli present in	Percentage positive.
1935-38	Liverpool unheated samples	4,553	40	8·8
	Liverpool school milk (heat treated)	828	1	0·12
	Unheated school milk (from other authorities)	1,134	82	7·2

These figures clearly indicate that there is considerable danger attached to the consumption of raw milk in Liverpool and to the supply of such milk to school children as practised in neighbouring districts. They show also that the heat treatment practised in Liverpool is remarkably effective in reducing this risk. In some reports on pasteurisation recently published it has been shown that the plant or the method of use may be unsatisfactory. The Liverpool figures indicate that both plant and method are very efficient and supervision entirely adequate, and that if the use of pasteurisation were extended a considerable risk of disease, deformity, suffering and death could be eliminated. Not all raw milks are equally dangerous as regards tuberculous infection; specimens from T.T. herds are in general much safer. But in four years 13 samples from such herds have been found to contain tubercle bacilli, 5 during the last year, and there is no guarantee that such herds are free from other diseases communicable to man.

Water.—During the past year there has been increased interest in the quality and safety of water supplies. More specimens have been examined for outside authorities and we have reviewed and revised our own methods of supervision. In addition to the routine daily samples of the city supply and monthly examinations of the Vyrnwy and Rivington inlets at Prescot Reservoirs, 189 special samples have been examined in attempts to clear up minor defects and with a view to establishing more efficient supervision. The Laboratory has worked in close co-operation with the Water Engineer, and it has been decided to arrange for more frequent and more numerous samples from Prescot. In future, weekly samples will be taken from the individual pipe lines

entering and leaving the Prescot reservoirs so that defects which may arise in the pipe lines and storage reservoirs will be detected earlier and with greater certainty. Weekly samples will also be taken from any wells in use.

Plague.—None of the 6,514 rats examined were found infected with plague.

Diphtheria.—The amount of work on diphtheria has continued to be large. The investigation of the laboratory diagnosis of diphtheria has been continued in the City's hospitals for infectious diseases, and two reports have been published in the "Journal of Pathology", vol. xlviii, 1939. These reports represent the completion of the first stage of a study of this disease in the City. The reported incidence of diphtheria in Liverpool has been high for the past ten years. It is now clear that the reported figures, no doubt like those from other cities, have been somewhat exaggerated, but the incidence is still high. Our study shows that approximately 40 per cent. of the cases admitted to hospital and notified as diphtheria were not in fact suffering from that disease. It has also been shown that the laboratory methods elaborated and tested in this laboratory can detect about 95 per cent. of the cases in 24 hours, and about 98 per cent. in all. It is clear, therefore, that adequate bacteriological examination, coupled with careful clinical study, can arrive at a correct diagnosis in a relatively short time, and thus obtain two important results. They render possible early segregation of non-diphtheria cases and so eliminate the risk of subsequent infection with diphtheria if they are introduced into diphtheria wards, a risk which though perhaps not very serious, nevertheless exists. They also make it possible to reduce the stay of such cases in hospital and so to make accommodation available for those who have more need of it. A further result of this enquiry has been the establishment of the fact that cross-infection from one patient to another is not infrequent in diphtheria wards, and that it is often responsible for prolonged hospitalisation and considerable expense to the authority. The investigation therefore raises two points of administrative importance to the hospital. It brings forward again the question of the best arrangements for the admission of patients to hospital and whether observation wards should be used more than at present, and also that of the methods to be adopted to prevent cross infection. With regard

to the latter, the laboratory has undertaken, at the request of the Medical Research Council, to study the effect of different methods of nursing upon the frequency of its occurrence.

The investigation has also been concerned with the epidemiology of diphtheria in Liverpool. Ample confirmation has been obtained of the observations made by McLeod and his colleagues in Leeds that there are three main kinds of diphtheria bacilli, all present in this city, and in all parts of the city in different proportions at different times and in different places. The *mitis* type is responsible for most of the serious laryngeal cases, and the infections are generally milder, though the fatality rate is 2·4 per cent; the *intermedius* and *gravis* types cause the toxic forms of the disease and kill 10·7 and 6·6 per cent. respectively of their victims. In Liverpool, unlike most other cities, the *intermedius* type is the most deadly, though fortunately the proportion of cases due to it is in general lower than that due to the others. This preliminary survey has provided a foundation for further studies on the part played by the various types and their relative incidence in the epidemiology of diphtheria over a period of several years.

It is clear that there is much diphtheria in Liverpool of a serious kind. There were 2,855 cases with 175 deaths included in our investigation, and 1938 has yielded 2,214 cases with 120 deaths. These figures are large, and they have been large for several years. It is probable that a decline may be anticipated in the future, but there is ample evidence from Toronto, Montreal and other Canadian and American cities that the disease can be enormously reduced if not abolished by immunisation, a procedure which, though encouraged and urged by the Medical Officer of Health, has not yet been adequately employed in Liverpool.

The question may be raised as to whether the high proportion of non-diphtheria cases admitted to hospital does not suggest that the criteria for admission should be altered. Any such steps would appear to be distinctly retrograde. Admission to hospital and serum treatment must and should remain a matter for the clinical judgment of the physician. Early treatment is the fundamental requirement and is most favoured by the present methods. Bacteriological and clinical segregation of non-diphtheria cases can be effected more safely and effectively after admission.

A question of no little interest is raised by the finding that only 10 out of 143 fatal cases received serum treatment before admission to hospital. Where early administration of serum is so urgently desirable it is a matter for discussion whether more might not be done in this connection. The apparent laxity in the matter of treatment is probably largely, though not entirely, offset by the fact that the great majority of cases are admitted to hospital very soon after they are seen by a doctor.

Enteric Diseases. 649 samples of faeces and 276 of urine were examined, and typhoid bacilli were isolated 101 times from the faeces and 45 from the urine. *B. paratyphosus B* was recovered from 54 specimens of faeces. Typhoid infections have been commoner than in the previous year. *B. aertrycke* was isolated from 34 faecal and 12 urinary specimens, *B. newport* from 1 faeces and *B. enteritidis* (*Gaertner*) from 1 faeces. Dysentery bacilli have been found much less frequently than in the previous year (Flexner 10 and Sonne 7).

Anthrax.—The Government disinfecting station submitted 396 specimens of hair and wool for examination. Of these 198 were untreated and 80 contained anthrax bacilli; 198 were treated and of these none were infected with anthrax. The results of the examination of untreated samples from various sources were as follows:—

Source.	Positive.	Negative.
Tunis	0	7
Persia	11	2
Russia	8	25
Algeria	7	13
China	1	10
Egypt	1	2
East India	24	11
Morocco	17	7
Other sources	9	43
	78	120

Work for authorities outside the Liverpool area.—In addition to the work done for the Corporation the laboratory has examined 9,704 specimens for outside authorities.

Examinations made in the Bacteriological Department for the City of Liverpool during the year 1938.

Milk (fresh-liquid)—Coli estimation, methylene blue test and examination for tubercle bacilli	674	
,, ,, —Coli estimation, bacterial count and examination for tubercle bacilli	240	
,, ,, —Coli estimation and methylene blue test ...	4	
,, ,, —Coli estimation and examination for tubercle bacilli	15	
,, ,, —Coli estimation, bacterial count, methylene blue test and examination for tubercle bacilli ...	12	
,, ,, —Coli estimation and count	6	
,, ,, —Examination for tubercle bacilli only (Veterinary samples)	36	
,, ,, —Inoculation only	261	
,, ,, —Methylene blue test only	7	
		1,255
Foodstuffs :—		
Tinned milk	10	
Shell-fish for bacterial contamination	1	
Ice cream for bacterial content and coli estimation	49	
Tinned and potted meats	1	
Miscellaneous foodstuffs	2	
		63
Water —bacterial counts and coli estimation :		
Daily samples from City supply	305	
Monthly samples	36	
Baths water	173	
Miscellaneous samples	189	
		703
Rats for plague bacilli		3,305
Swabs for organisms of Vincent's Angina		283
Swabs for diphtheria bacilli		53,249
Diphtheria cultures—virulence tests		1,213
,, ,, —type determination		6,021
Agglutination tests		153
Blood cultures		12
Faeces for organisms of the enteric group		645
Urine for organisms of the enteric group		276
Carried forward		67,178

Brought forward	67,178
Cerebrospinal fluid, etc., for pathogenic organisms	61
Sputum, etc., for tubercle bacilli	1,940
Exudates for anthrax bacilli	64
Swabs for tetanus infection	4
Miscellaneous examinations of tissues, secretions, etc.	1,637
	70,884

Venereal Diseases :

Wassermann tests	14,705
Meinicke tests	4,412
Films for gonococci	1,021
Cultures for gonococci	89
Gonococcus complement fixation tests	722
Exudates for spirochaetes	31
Tissues for spirochaetes	43
	21,023

Port Health Authority :

Wool and Hair for anthrax bacilli and spore-bearing organisms	396
Rats for plague bacilli	3,209
Faeces for organisms of enteric group	4
Examination of tissues, secretions, etc.	6
Miscellaneous	10
	3,625

SUMMARY.

Specimens of Water, Milk, Foodstuffs and Infectious material	70,884
Venereal Diseases	21,023
Port Health Authority	3,625
	95,532

Examinations made in the Bacteriological Department for Authorities and Private Practitioners, etc., outside Liverpool.

Milk (fresh-liquid)	982
Water and sewage effluents	245
Swabs for organisms of Vincent's Angina	22
Swabs for diphtheria bacilli	4,161
Carried forward ...	5,410

Brought forward ...	5,410
Diphtheria cultures—virulence tests	41
,, ,, —type determination	90
Agglutination tests	155
Blood cultures	7
Faeces and Urine for organisms of the enteric group	119
Cerebrospinal fluid for pathogenic organisms	17
Sputum, etc., for tubercle bacilli	96
Miscellaneous secretions	213
Miscellaneous samples	98
	6,246

Venereal Diseases :

Wassermann tests	2,806
Films for gonococci	453
Gonococcus complement fixation tests	199
	3,458

SUMMARY.

Bacteriological examinations	6,246
Venereal diseases examinations	3,458
	9,704
Examinations made for the City of Liverpool	95,532
Examinations made for Authorities and Private Practitioners outside Liverpool	9,704
	105,236

HOUSING

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HOUSING.

Progress with slum clearance operations proceeded throughout the year, 54 areas being dealt with by clearance area procedure, and two areas were declared proposed re-development areas.

Clearance Areas.

The following summary refers to dwelling-houses represented by the Medical Officer of Health during the year 1938 as being unfit for human habitation within the meaning of Section 25 of the Housing Act, 1936:—

Number of dwelling-houses represented during 1938 ...	2,583
,, ,, persons occupying the dwelling-houses ...	11,923
,, ,, clearance areas officially represented ...	54
,, ,, areas declared compulsory purchase orders...	5
,, ,, areas declared clearance orders	38
,, ,, areas in abeyance	11

Progress of Slum Clearance.

The following summary indicates the number of houses dealt with to date.

Year.	No. of Clearance Orders.	No. of Compulsory Purchase Orders.	No. of Dwelling-houses.	No. of Persons to be displaced.	No. of Houses demolished.	No. of Persons displaced.
1930	—	16	398	3,430	—	—
1934	60	42	2,757	13,093	—	709
1935	47	60	2,793	14,302	278	1,285
1936	55	59	3,511	17,923	695	5,443
1937	60	27	1,867	9,979	872	5,185
1938	38	5	2,583	11,923	1,412	14,031
Totals	260	209	13,909	70,650	3,257	26,653

Public Inquiries.

During the year under review five Public Inquiries were held, in connection with 94 areas, further details of which are set out in the following table:—

No. of Clearance Orders.	No. of Compulsory Purchase Orders.	No. of Dwelling-houses.	No. of Persons to be displaced.
65	29	1,952	10,395

During the year 90 confirmation orders were received in connection with 1,867 dwelling-houses. These orders confirmed the inclusion of 99·1 per cent. of dwelling-houses in the areas.

The following is a list of the Clearance Areas which were represented during the year:—

Compulsory Purchase Orders.

Clearance Areas.	Houses.	Population.
Etna Street, No. 2	10	40
Lancaster Street	154	844
Louis Street	116	528
Mill Road, No. 3	6	11
Skirving Street	243	1,275
TOTALS	529	2,698

Clearance Orders.

Clearance Area.	Houses.	Population.
Back Boundary Street, No. 1	5	28
Back Boundary Street, No. 2	3	10
Back Boundary Street, No. 3	15	55
Bevington Hill, No. 2	8	19
Bevington Hill, No. 3	16	87
Burlington Street, No. 4	20	153
Burlington Street, No. 5	4	25
Burroughs Gardens	2	5
Cleveland Square, No. 2	2	10
Crooked Lane	8	13
Currie Street, No. 1	25	106
Currie Street, No. 2	2	6
Carried forward ...	110	517

Clearance Areas.	Houses.	Population.
Brought forward ...	110	517
Frederick Street, No. 1	3	16
Frederick Street, No. 2	9	45
Fulford Street	2	8
Grayson Street	5	33
Great Homer Street	3	47
Hurst Street, No. 3	3	10
Hurst Street, No. 4	4	24
Limekiln Lane, No. 3	5	16
McKee Street	3	13
Maghull Street	11	53
Mercer Court	6	22
Mile End	16	85
Ogden Weint	2	6
Park Lane, No. 3	5	13
Quarry Mount, Woolton	5	15
Rawsthorne Square	21	104
Shaws Alley	6	27
Stanley Road, No. 1	3	13
Stanley Road, No. 2	3	9
Tong Street, No. 1	6	32
Tong Street, No. 2	12	54
Villars Street, No. 1	2	8
Villars Street, No. 2	22	43
Warren Street	20	120
William Moult Street	2	9
Wrexham Street	2	7
TOTALS	291	1,349

Areas Still in Abeyance.

Clearance Areas.	Houses.	Population.
Carnarvon Street	96	334
Foley Street	2	8
Morley Street	24	106
Smith Street	7	42
Soho Square	5	20
Soho Street, No. 1	2	33
Soho Street, No. 2	18	108
Whittle Street	3	19
William Henry Street, No. 1	4	35
William Henry Street, No. 2	3	21
William Henry Street, No. 3	1,599	7,150
TOTALS	1,763	7,876

Individual Unfit Houses.

Since operations were commenced under the Housing Acts, 1930-1936, the Medical Officer of Health has submitted representations in connection with 771 individual houses to the Housing Committee which, in his opinion, were unfit for human habitation.

564 houses have been dealt with under Section 19 of the Housing Act, 1930, and Section 11 of the Housing Act, 1936, and 207 houses under Section 20 of the Housing Act, 1930, and Section 12 of the Housing Act, 1936.

During the year, 24 individual houses were represented as being unfit for human habitation within the meaning of Section 11 of the Housing Act, 1936, which, together with the adjourned cases for last year, were dealt with as follows:—

Demolition Orders made	2
Undertakings given not to use for human habitation ...	8
Undertakings given to render houses fit for human habitation in accordance with approved schemes	7
Undertakings cancelled after houses have been rendered fit...	3
Number adjourned	1
Number of representations still to be considered	8
Number of properties acquired by Local Authority	3

Closing Orders in respect of Parts of Buildings.

During the year 53 representations of parts of buildings within the meaning of Section 12 of the Housing Act, 1936, were made, which, together with the adjourned cases for last year, were dealt with as follows:—

Closing Orders made (including 17 underground dwellings)	30
Undertaking not to use for human habitation (including 1 underground dwelling)	22
Number of representations still to be considered	13
Number of properties acquired by Local Authority	3

Re-conditioning by Owners.

Schedules of works and plans were submitted to the Local Authority under Section 51 of the Housing Act, 1936, in connection with 71 houses,

and after providing the owners with additional lists of works, the Local Authority indicated that it was their opinion that, after the execution of these works, the houses would remain fit for a period of years, being not less than 5 years nor more than 10 years.

Works were completed in respect of 20 houses and certificates under Section 51 of the Housing Act, 1936, were issued for a period of seven years in respect of 14 houses, and for a period of five years in respect of six houses. Certificates were withheld in respect of five houses owing to the works not being carried out to the satisfaction of the Local Authority.

Works were completed in respect of 14 houses but the certificates under Section 51 of the Housing Act, 1936, have not yet been issued. At the end of the year works were proceeding at eight properties with a view to obtaining the necessary certificates.

Increase of Rent and Mortgage Interest Restrictions Acts, 1920 to 1935.

Certificates have been issued under the above Acts in respect of 15 dwelling-houses when the premises were not in all respects reasonably fit for human habitation. In one instance work has been carried out satisfactorily, and the certificate cancelled.

Re-development Areas.

Two areas were declared by the Council as proposed re-development areas and submitted to the Minister of Health. Figures relating to the conditions existing in these areas are shown in the following table:—

Re-development Area.	No. of buildings other than dwelling-houses.	No. of working-class houses.	No. of working-class houses over-crowded.	No. of working-class houses unfit and incapable at reasonable expense of being rendered fit.	No. of working-class houses congested.
Brownlow Hill ...	58	289	53	108	77
Warwick Street	139	1,315	294	447	456

The re-development plans relating to Beaumont Street Re-development Area, and Pitt Street and Kent Square Re-development Area were confirmed by the Minister of Health in August.

Housing of the Working Classes.

Re-housing Schemes.

During 1938, the following flats, erected on sites in the central areas of the city, were completed:—

Queen Anne Street.—This scheme, the greater portion of which was erected under the powers of the Housing Act, 1923, was completed by the erection of a further 75 flats, comprising 16 one bedroom, 25 two bedroom, 33 three bedroom and 1 four bedroom types. The complete scheme contains 13 bed living room, 88 one bedroom, 102 two bedroom, 228 three bedroom and 18 four bedroom type flats.

St. Domingo Road.—194 flats, consisting of 12 one bedroom, 118 two bedroom, 40 three bedroom and 24 four bedroom types.

Upper Stanhope Street.—67 flats, containing 15 one bedroom, 25 two bedroom and 27 three bedroom types.

Westmoreland Place.—127 flats, containing 8 one bedroom, 35 two bedroom and 84 three bedroom types. These flats form the first portion of a large scheme in the Athol Street Re-development Area.

Northumberland Street.—150 flats, consisting of 7 one bedroom, 65 two bedroom, 58 three bedroom and 20 four bedroom types.

Pitt Street.—90 flats, consisting of 5 one bedroom, 25 two bedroom, 50 three bedroom and 10 four bedroom types. These flats are within the Pitt Street-Kent Square Re-development Area.

St. Andrew's Gardens.—30 flats, comprising 6 one bedroom, 14 two bedroom and 10 three bedroom types and 3 shops forming an extension to the 316 flats previously erected in this scheme. A portion of the scheme is within the Brownlow Hill Re-development Area.

Gerard Street.—A further 104 flats, comprising 18 one bedroom, 39 two bedroom, 41 three bedroom and 6 four bedroom types, and 1 shop.

This scheme now contains a total of 282 flats and is in the Central Re-development Area where it is intended to erect more than 2,000 flats.

Warwick Street.—107 flats, containing 2 one bedroom, 39 two bedroom, 52 three bedroom and 14 five bedroom types, and 2 shops.

Highfield Street.—A further 41 flats, consisting of 10 two bedroom and 31 three bedroom types. This scheme will eventually contain a total of 383 flats.

Fontenoy Street.—The second portion of this scheme, containing 4 one bedroom, 28 two bedroom 12 three bedroom and 4 four bedroom type flats, and 13 shops, was completed.

Corlett Street.—74 flats, consisting of 9 one bedroom, 23 two bedroom, 39 three bedroom, and 3 four bedroom types. Further flats were in an advanced stage of construction at the end of the year.

Mill Street.—150 flats, comprising 5 one bedroom, 56 two bedroom, 70 three bedroom and 19 four bedroom types. This scheme is within the Warwick Street Re-development Area.

St. Oswald Street.—158 flats, comprising 16 one bedroom, 36 two bedroom and 106 three bedroom types. Further flats and a number of shops were in course of erection and will be completed during 1939.

In addition to the 1,415 flats erected in the central areas of the city, referred to above, the following houses and flats were erected on the outskirts of the city in connection with the slum clearance programme:—

Larkhill Estate.—A further 39 flats, consisting of 18 bed living room, 18 one bedroom and 3 two bedroom types were completed.

Knowsley (Woolfall Heath) Estate.—On this portion of the Knowsley Estate, which is situated outside the city boundary, 890 houses and flats were completed during the year. These consisted of 18 two bedroom and 18 three bedroom type flats, 104 cottages for aged

persons, 94 two bedroom and 472 three bedroom houses of the non-parlour type, and 4 two bedroom and 180 three bedroom houses of the parlour type.

Sparrow Hall Estate.—36 two bedroom flats, 105 three bedroom and 12 four bedroom houses of the non-parlour type and 63 three bedroom houses of the parlour type were completed.

Woolton Grove Estate.—59 two bedroom, 96 three bedroom, 10 four bedroom and 2 five bedroom houses of the non-parlour type and 57 three bedroom houses of the parlour type were erected. This estate is being developed in connection with slum clearance operations in the Woolton district.

At the end of 1938, the following houses and flats were in course of erection for the accommodation of persons displaced as a result of slum clearance activities:—

Central Areas.

Corlett Street.—A further 64 flats, comprising 4 one bedroom, 12 two bedroom, and 48 three bedroom types, and 7 shops, were nearing completion at the end of the year.

Portland Street.—110 flats, comprising 8 one bedroom, 38 two bedroom and 64 three bedroom types.

Gerard Street.—A further 56 flats, comprising 6 one bedroom, 22 two bedroom, 21 three bedroom and 7 four bedroom types, were in an advanced stage of construction at the end of 1938.

St. Oswald Street.—A further 60 flats, consisting of 8 one bedroom 16 two bedroom, 30 three bedroom and 6 four bedroom types, and 4 three bedroom non-parlour type houses.

Westmoreland Place.—An additional 74 flats, containing 12 one bedroom, 9 two bedroom, 51 three bedroom and 2 four bedroom types, were in course of erection on this portion of the Athol Street Re-development Area.

Mason Street.—100 flats, containing 60 two bedroom and 40 three bedroom types.

St. Domingo Road.—A further 154 flats, comprising 96 two bedroom, 46 three bedroom and 12 four bedroom types.

Outskirts.

Knowsley (Woolfall Heath and Longview Farm) Estate.—At the end of 1938, operations were in progress on the erection of a further 1,415 houses comprising 12 one bedroom, 6 two bedroom, and 6 three bedroom type flats, 91 two bedroom, 910 three bedroom, 88 four bedroom and 4 five bedroom non-parlour type houses, and 298 three bedroom parlour type houses on these portions of the Knowsley Estate.

Woolton Grove.—96 cottages for aged persons were nearing completion at the close of the year and a further contract was contemplated.

Housing Schemes in the Suburbs.

In the year 1919 the Housing Committee commenced to erect houses in the suburbs and under the Housing Acts of 1919, 1923, 1924 and 1925, had erected 26,336 houses and 415 flats on suburban estates up to the end of 1937.

During 1938, a further 152 houses, all of the three bedroom parlour type, were erected without subsidy on the Knowsley (Longview Farm) Estate.

At Speke, development is proceeding in close proximity to an area in which considerable industrial development will take place, and it is intended to build about 6,000 houses on this estate and to provide for the amenities which will enable the estate to be a self-contained community unit. During 1938, 568 houses, comprising 29 two bedroom and 237 three bedroom non-parlour types and 302 three bedroom parlour type, were erected without State assistance, and at the close of the year a further 683 houses were in course of erection.

The following tables give details relating to the suburban districts where houses have been erected and to the situations of the dwellings provided in the central areas of the city:—

Houses Erected on Suburban Estates at 31st December, 1938.

(Including houses erected on the outskirts for slum clearance purposes.)

	Non-Parlour.	Parlour.	Total.
Dovecot Estate	2,331	686	3,017
Edge Lane Drive Estate	560	311	871
Elms House Estate	252	—	252
Fazakerley Estate	1,030	410	1,440
Finch Lane...	54	—	54
Highfield Estate	—	618	618
King Street, etc., Garston	76	—	76
Knotty Ash Estate	389	263	652
Knowsley Estate	874	—	874
Larkhill Estate	476	1,834	2,310
,, ,, (Flats)	90	120	210
Norris Green Estate	4,730	2,965	7,695
Pinehurst Road Estate	287	395	682
Ronald Street	78	—	78
Sparrow Hall Estate	511	63	574
,, ,, ,, (Flats)	36	—	36
Speke (Banks Lane) Estate	286	—	286
Speke	266	302	568
Speke Road (Flats)	312	—	312
Springwood Estate	250	1,249	1,499
,, ,, (Flats)	—	49	49
Walton-Clubmoor Estate	1,525	1,671	3,196
Woolton	312	57	369
Partly developed estates	—	554	554
Total within the area of the City ...	14,725	11,547	26,272
Huyton Farm Estate	937	79	1,016
Knowsley Estate	2,964	468	3,432
,, ,, (Flats)	84	—	84
Total outside the City boundary ...	3,985	547	4,532
TOTAL	18,710	12,094	30,804

In addition to the above there are 122 flats erected over shops on various suburban estates.

During the same period (1919-1938) 26,680 houses have been erected by private enterprise within the area of the City, and of these 4,294 were eligible for subsidy under the Housing Acts of 1923 and 1924.

Dwellings Erected in the Central Areas of the City.

Situation.	Date opened.	Number of dwellings (Including houses with shops attached).
St. Martin's Cottages	1869	124
Victoria Square	1885	270
Juvenal Dwellings	1891	101
Arley Street	1897 1902/3	46
Gildart's Gardens	1897 1904	229
Dryden Street	1901	182
Kempston Street	1902	79
Kew Street	1902/3	114
Adlington Street Area	1902/3	273
Stanhope Cottages	1904	60
Mill Street	1904	55
Hornby Street	1904 1906/7	455
Clive Street and Shelley Street	1905	83
Eldon Street	1905	12
Upper Mann Street	1905/6	88
Combermere Street	1909	49
Burlington Street	1910	114
Saltney Street	1911	48
Grafton Street	1911	60
Bevington Street Area	1912	223
Northumberland Street Area	1913	68
St. Anne Street Area	1914	78
Gore Street	1916	24
Jordan Street	1916	31
Sparling Street	1916	16
Penrhyn Street	1921	26
Mason Street	1921	28
Blenheim Street	1923	18
Prince Edwin Street	1924	60
St. Augustine Street	1925	6
Bond Street	1925	24
Pitt Street	1928	48
South Hill Road	1928	198
Melrose Road	1929	260
Rankin Street	1929	46
Hopwood Street	1930	30
Holly Street	1931	34
Burlington Street	1931/6	209
Great Richmond Street	1931	21
Beloe Street	1931	69
Burnet Street	1932	16
Dingle Mount	1932	118
Carried forward ...		4,093

Situation.	Date opened.	Number of dwellings (Including houses with shops attached).
Brought forward ...		4,093
Kew Street	1932	9
Queen Anne Street	1933/8	449
Blackstock Gardens	1934	134
Trowbridge Street	1934/8	346
Dingle Road	1934	14
St. James' Street	1935	54
Chaucer Street	1935	35
Fontenoy Street	1935/8	111
Wilbraham Street	1935/7	60
High Street, Wavertree	1935	72
Caryl Street-Grafton Street	1936/7	312
Myrtle Street	1936/7	344
Gerard Street	1936/8	282
Highfield Street	1936/8	107
Nelson Street	1936	25
Upper Frederick Street	1937	72
Hill Street	1937	56
Horatio Street	1937	44
Johnson Street	1937	40
St. Domingo Road	1938	194
Upper Stanhope Street	1938	67
Westmoreland Place	1938	127
Northumberland Street	1938	150
Pitt Street-Kent Square	1938	90
Warwick Street	1938	107
Corlett Street	1938	74
Mill Street	1938	150
St. Oswald Street	1938	158
TOTAL		7,776

Housing Statistics.

1. *Inspection of dwelling-houses during the year.*

(1) (*a*) Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts) 26,322

(*b*) Number of inspections made for the purpose 41,832

(2) (*a*) Number of dwelling-houses (included under sub-head (1) above) which were inspected and recorded under the Housing Consolidated Regulations, 1925 and 1932 2,662

(*b*) Number of inspections made for the purpose 12,497

(3) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation ... 2,625

(4) Number of dwelling-houses (exclusive of those referred to under the preceding sub-head) found not to be in all respects reasonably fit for human habitation 6,042

2. *Remedy of Defects during the year without Service of Formal Notices.*

Number of defective dwelling-houses rendered fit in consequence of informal action by the Local Authority or their officers... 14,857

3. *Action under Statutory Powers during the Year*

(*a*) *Proceedings under Sections* 9, 10 *and* 16 *of the Housing Act*, 1936.

(1) Number of dwelling-houses in respect of which notices were served requiring repairs ... Nil

(2) Number of dwelling-houses which were rendered fit after service of formal notices—

(*a*) by owners 112

(*b*) by local authority in default of owners ... ... Nil

(*b*) *Proceedings under Public Health Acts.*

(1) Number of dwelling-houses in respect of which notices were served requiring defects to be remedied 13,583

(2) Number of dwelling-houses in which defects were remedied after service of formal notices:—

(*a*) By owners 12,058

(*b*) By local authority in default of owners	Nil
(*c*) *Proceedings under Sections* 11 *and* 13 *of the Housing Act*, 1936.	
(1) Number of dwelling-houses in respect of which Demolition Orders were made	2
(2) Number of dwelling-houses demolished in pursuance of Demolition Orders	13
(*d*) *Proceedings under Section* 12 *of the* Housing Act, 1936	
(1) Number of separate tenements or underground rooms in respect of which Closing Orders were made	30
(2) Number of separate tenements or underground rooms in respect of which Closing Orders were determined, the tenement or room having been rendered fit	Nil
4. *Housing Act*, 1936—*Part IV—Overcrowding.*	
(*a*) (i) Number of dwellings overcrowded at the end of the year	3,910
(ii) Number of families dwelling therein ...	4,181
(iii) Number of persons dwelling therein ...	27,783
(*b*) Number of new cases of overcrowding reported during the year	200
(*c*) (i) Number of cases of overcrowding relieved during the year	2,484*
(ii) Number of persons concerned in such cases	14,407
(*d*) Particulars of any cases in which dwelling-houses have again become overcrowded after the Local Authority have taken steps for the abatement of overcrowding ...	Nil

* Revealed by further survey of houses overcrowded before the appointed day.

(*e*) Other particulars with respect to overcrowding upon which the Medical Officer of Health considers it desirable to report:—

During the year, 76,007 visits were made to houses in connection with the overcrowding provisions of the Housing Act.

In 1,690 cases, the name and address of the Medical Officer of Health was not inscribed in the rent book, whilst in 3,228 cases the necessary summary of Sections 58, 59 and 61 of the Housing Act, and the number of persons permitted to occupy the house, was not inserted in the rent book. Of these contraventions, 1,464 were remedied with respect to the name and address of the Medical Officer, whilst 2,805 were remedied with respect to the summary of Sections 58, 59 and 61, etc., warning letters having been sent to the owners concerned in respect of each such contravention.

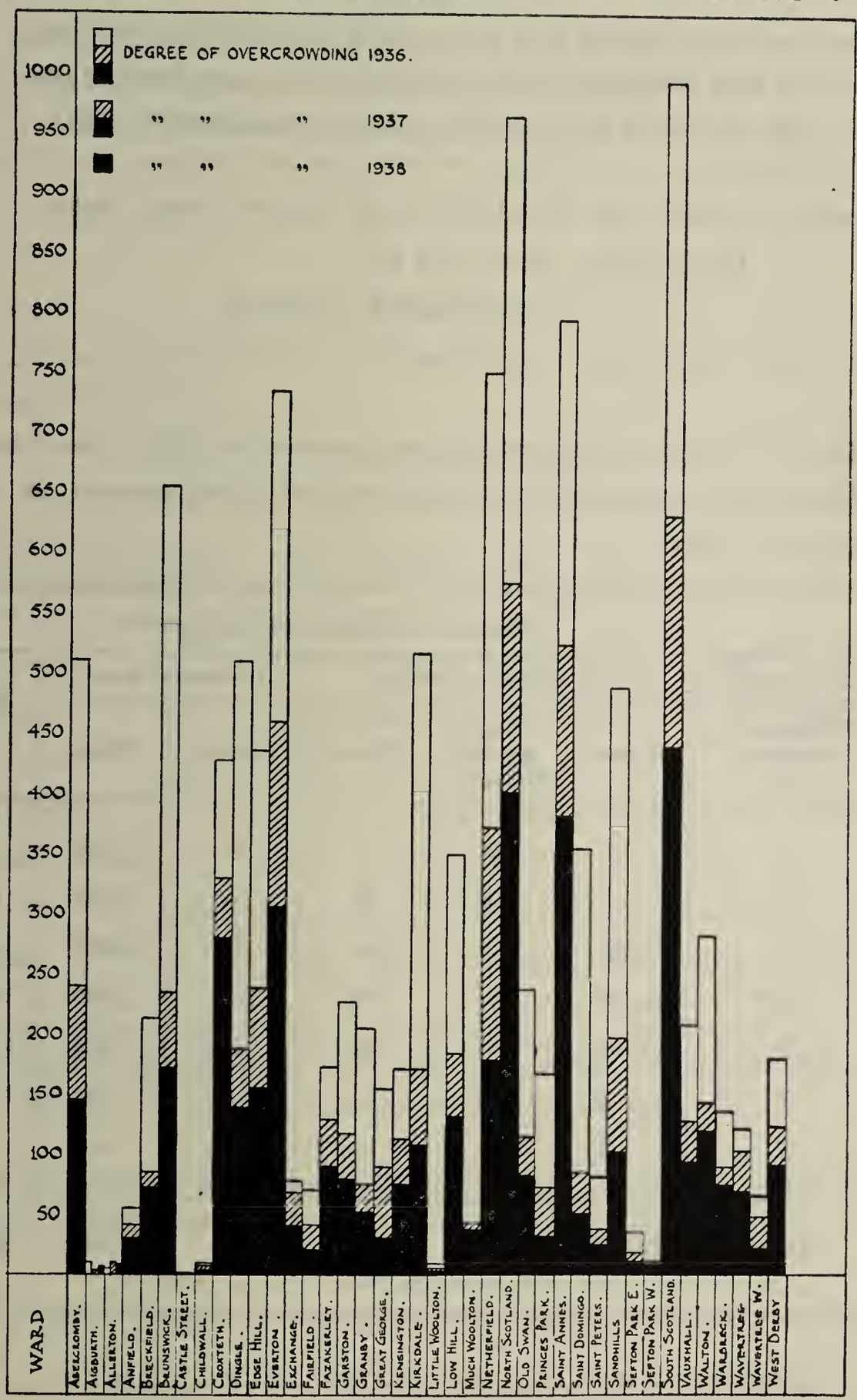
Since the appointed day (1st January, 1937), 254 families were found to have overcrowded premises, thereby committing an offence against this Act. In each of these cases, notices under Sections 59 and 66 were served upon the occupiers and landlords respectively, and in 210 cases, the notices were complied with.

In order to keep a check on the movement of overcrowded families, and to ascertain the extent of the mobility of the overcrowded population, all houses known to be overcrowded were revisited towards the end of the year 1938.

Of the 6.665 houses re-visited, only 4,181 (or 2·66 per cent. of the 157,433 houses surveyed) were found to be overcrowded. It was not possible to trace 954 families. In 97 cases the houses had been demolished, 63 houses were vacant, 172 houses were derelict, and in 28 cases the families had left the city. In 594 cases, the families had removed to unknown addresses.

The remaining 1,530 houses had become decrowded, 633 by reason of an increase in the existing accommodation, 374 by removing to premises having greater accommodation, and 523 by reason of a decrease in the number of persons in the family.

CHART INDICATING KNOWN CASES OF OVERCROWDING FOR THE YEARS 1936 TO 1938.



During the year, the percentage of known overcrowding has dropped from 3·91 per cent. to 2·66 per cent.

Houses owned by the Local Authority.

Total number of houses and flats owned by the Local Authority at 31st December, 1938 (excluding 20 houses built under the powers of the Housing Acts and subsequently sold) ... 38,560

Number of houses and flats built in the last two years under—

1. Housing Act, 1936, Part III 4,415
2. ,, ,, ,, Part IV 60
3. ,, ,, ,, Part V 839

The following table shows the accommodation which has been provided in the Corporation's housing and rehousing schemes up to 31st December, 1938:—

No. of rooms per dwelling (exclusive of bathrooms, sculleries, etc.).	Number of houses and flats erected.					Totals.
	On suburban estates.			In central areas.		
	Houses.	Aged person's cottages.	Flats.	Houses.	Flats.	
1	—	98	18	—	223	339
2	—	156	84	—	1,661	1,901
3	1,287	—	239	18	2,693	4,237
4	16,387	—	199	154	2,792	19,532
5	12,182	—	151	18	203	12,554
6	2	—	—	—	14	16
7	1	—	—	—	—	1
Totals ...	29,859	254	691	190	7,586	38,580

In addition to the above, 80 shops have been erected in the various schemes in the central areas of the City, and 188 shops, with 122 flats above, on suburban estates.

Rentals.

The weekly rentals, including rates, of flats range from 2s. 8d. for a bed living room flat to 10s. 6d. for a five bedroom flat. The inclusive weekly rentals of houses vary between 8s. 2d. and 14s. 7d. for non-parlour type houses and between 16s. 0d. and 19s. 7d. for parlour type houses.

Erection of New Houses.

The following information has been kindly supplied by the City Building Surveyor:—

Return of Houses erected 1933-1938.

Number of Rooms, (Exclusive of bathrooms, sculleries, etc.)	1933	1934	1935	1936	1937	1938
4 Rooms or less	1,526	2,902	1,646	2,225	1,696	2,018
5 or 6 Rooms	1,595	2,298	2,924	2,632	2,165	1,503
7 or 8 Rooms	148	129	93	36	16	19
9 or 10 Rooms	4	4	3	—	1	—
More than 10 Rooms ...	1	—	—	—	—	—
Totals	3,274	5,333	4,666	4,893	3,878	3,540*

*The Housing Committee has also built 1,006 houses and 36 flats outside the city boundary which are not included in these figures.

The total number of houses which have been erected by or for the Housing Committee during the last six years are:—

1933	...	1,350	(includes	318	flats)
1934	...	2,026	(,,	337	,,)
1935	...	1,473	(,,	698	,,)
1936	...	1,802	(,,	694	,,)
1937	...	1,810	(,,	687	,,)
1938	...	3,504	(,,	1,526	,,)

Number of houses erected and taken down during the year 1938.

Sub-Registration Districts.	Number Erected.	Number Taken Down.
Exchange	216	232
Abercromby	128	132
St. Peters	768	263
Toxteth Park	84	186
Edge Hill and Sefton Park	18	130
Wavertree	1,540	87
Fazakerley	185	—
Walton and Walton Park	14	21
Kirkdale	5	37
Netherfield	194	64
Everton	—	152
West Derby	388	236
Total within the area of the city	3,540	1,540
*Longview Farm	152	—
*Woolfall Heath	890	—
Total outside the city boundary	1,042	—
	4,582	1,540

* Outside the City Boundary.

Of the 4,582 dwelling-houses erected during 1938, 3,504 were built under the direction of the Housing Committee, including 1,526 flats, and of these, 1,042 houses and flats were erected on estates outside the city boundary.

Residential Flats.—During the year 1938, 23 houses were converted into 79 residential flats, giving a net increase of 56 "new" dwelling-houses.

Vital Statistics of Slum Areas and Corporation Housing Estates.

The following table is a record of vital statistics for the year 1937 of the total number of insanitary houses in Slum Clearance Areas in the City of Liverpool represented during 1937 compared with those of the Corporation Housing Estates for the same period.

Area.	Houses	Population	Population per house	Percentage of total population	Births	Deaths	Infant deaths	Pulmonary tuberculosis deaths	Birth rates	Death rates	Infant mortality rates	Pulmonary tuberculosis death rates
Insanitary houses in Clearance Areas represented during 1937 ...	1,868	9,990	5·35	1·15	249	137	26	10	24·9	13·7	104	1·0
Corporation Housing Estates on the outskirts of the City ...	25,126	106,786	4·25	12·31	1,588	929	104	81	14·9	8·7	65	0·8
City of Liverpool ...	194,781	867,110	4·45	100	16,728	11,452	1,371	684	19·3	13·2	82	0·8

General Statistics.

Area of City	27,321 acres.
Estimated Population	864,000
Number of inhabited houses at 31st December, 1938	198,089
Number of structurally separate dwellings occupied (1931 Census)...	173,938
Rateable value	£6,769,194
Sum represented by a Penny Rate	£24,324
Number of New Houses erected during the year :—	
(i) By the Local Authority ... ... (of which 720 were built without subsidy)	3,504
(ii) By other bodies or persons	1,078

WELFARE OF THE BLIND.

During 1938, 254 applicants for benefits due to the blind under the Blind Persons Act, 1920, were examined by ophthalmic surgeons. Of these, 161 were found to be blind within the meaning of the Act and 93 were not blind. The Corresponding figures for 1937 were 342 applicants, of whom 217 were blind.

In Table I is given the number of registered blind persons in Liverpool.

TABLE I.

PERSONS REGISTERED AS BLIND.

Age.	Males.	Females.	Total.
0+	4	4	8
5+	18	12	30
16+	19	14	33
21+	128	111	239
40+	112	89	201
50+	266	282	548
65+	109	124	233
70+	212	391	603
	868	1,027	1,895

In Table II, 1,857 blind persons who are 16 years of age and over, are classified according to their ability to work, etc.

TABLE II.

BLIND PERSONS 16 YEARS OF AGE AND OVER.

	Males.	Females.	Total.
Employed	133	52	185
Trained but not employed	11	—	11
Under training	10	10	20
Trainable but not under training	16	3	19
Unemployable	676	946	1,622
	846	1,011	1,857

In Table III, 189 blind persons who are suffering from some other serious physical defect, or who are mentally defective, are analysed.

TABLE III.

BLIND PERSONS WHO ARE PHYSICALLY OR MENTALLY DEFECTIVE.

	Males.	Females.	Total.
Mentally defective	42	20	62
Physically defective	35	35	70
Deaf	15	24	39
Combinations of above disabilities	8	10	18
	100	89	189

CARE OF ANIMALS.

The Corporation of Liverpool makes yearly donations to the Royal Society for the Prevention of Cruelty to Animals, Liverpool Branch, and to the Liverpool Dogs' Home on account of the work done by those Institutions, and the following brief reports are therefore of interest.

Liverpool Cats' Shelters.

The improved accommodation at the new principal shelter, 11, Mount Vernon Road, has made it possible for stray cats to be kept for a few days in the hope that owners may seek and find their lost animals. The number successfully restored in this way during 1938 was only 3, but it is hoped that it may increase as time goes on, and that by these facilities people may be encouraged to value their cats more highly, and to take more trouble to recover a lost animal. The total handled in Liverpool during the year was 33,694. This includes 3,174 litters, a gratifying item, because it shows some response to the Society's continual urging that unwanted kittens should not be allowed to grow up but should be sent to one or other of the shelters immediately. The facilities provided by the collecting van are being increasingly utilised, and there were 14,237 animals received in this way, a certain number being from Bootle, Crosby and other surrounding areas. Requests for the services of the van should be directed to the caretaker, The Liverpool Cats' Shelter, 11, Mount Vernon Road, Liverpool, 7. Telephone, Royal 4174. The other shelters are at 90, Smith Street, Liverpool, 5, and at 230, Mill Street, Liverpool, 8. Boarder cats, which are received at Mount Vernon Road and Smith Street, totalled 424 during 1938.

Liverpool Horses' Rest.

The new premises at Halewood with their modern equipment have brought this department of the work into more favour than ever. The total number of animals cared for during 1938 was 169, being by far the largest number on record since the inception of the work some 25 years ago. Primarily the Horses' Rest caters for the working animal which needs rest. There are also a few old war horses received as "pensioners", and sometimes a worn-out animal is given a short period of peaceful respite before humane slaughter, while in addition a number of shore donkeys spend the winter there. It has become the rule for animals to be conveyed to the Horses' Rest and later to be returned home, in the new ambulance; indeed, without this vehicle, which was the gift of an anonymous friend, the work at Halewood would be seriously hampered.

Liverpool Animal Clinic.

The total of attendances at the Larch Lea and Mill Street Clinics during 1938 was 11,863, against 9,662 in 1937, all with the exception of a few emergency cases, being the animals of people who cannot pay veterinary charges; 297 in-patient cases were treated, and 93 major operations were successfully carried out. No charges are made. The Veterinary Surgeons of the city attend day by day to carry out this work in an honorary capacity. This is the oldest free Animal Clinic in the provinces.

All the above institutions are conducted by the R.S.P.C.A., Liverpool Branch, 3, Crosshall Street, Liverpool, 1. (Tel., Central 0427.)

Liverpool Dogs' Home.

The total number of animals received during 1938 was 10,413, showing once more an increase on the previous year's figures. Animals reclaimed by their owners totalled 718. Sales to new homes totalled 642, and the number of boarders was 580, while cremations totalled 132. The number humanely lethalised was 8,844. All these items include a certain number of animals from Bootle, Crosby and other surrounding districts. The two motor vans were continually employed day in, day out, in collecting unwanted animals from the Police pinfolds and direct from their owners' houses. It is gratifying to note that the number received direct from their owners largely exceeds the numbers received from the streets. One of these vans was replaced by a new Morris Commercial 15-cwts. at the beginning of the year. The Committee urge that unwanted litters should be sent to the Home directly after birth. Application for the use of the van should be made to the Keeper, The Liverpool Dogs' Home, Edge Lane, Liverpool, 7. Telephone, Old Swan 1340. The City office of the Dogs' Home is at 3, Crosshall Street, Liverpool, 1. Telephone, Central 0427. It should be noted that this Charity is quite independent, and is not connected in any way with any other animal Society.

APPENDIX A

CITY OF LIVERPOOL.

Vital Statistics of the Whole District during 1938 and 5 previous years.

AR.	Population estimated to Middle of each year.	Births.			Total Deaths Registered in the District.		Transferable Deaths.		Net Deaths belonging to the District.			
		Uncorrected Number.	Net.						Under 1 year of age.		At all ages.	
			Number.	Rate.	Number.	Rate.	of Non-residents registered in the District.	of Residents not registered in the District.	Number.	Rate per 1000 Net Births.	Number.	Rate.
.....	866013	17457	16929	19·5	13076	15·1	1032	400	1655	98	12444	14·4
.....	866013	18244	17593	20·3	12016	13·9	1062	365	1418	81	11319	13·1
.....	867110	17998	17347	20·0	12288	14·2	1170	329	1445	83	11447	13·2
.....	867110	18398	17403	20·1	12118	14·0	1290	355	1311	75	11183	12·9
.....	867110	18051	16728	19·3	12388	14·3	1298	362	1371	82	11452	13·2
.....	864000	17536	16175	18·7	11591	13·4	1287	334	1189	73	10638	12·3

CITY OF LIVERPOOL.

Causes of, and ages at, Death during the year 1938.

Causes of Death.	Net Deaths at Various Ages, of "Residents," whether occurring within or without the District.									Total Deaths in Institutions in Liverpool District, whether of "Residents" or "Non-Residents."
	At all ages.	At Ages—Years.								
		Under 1	1—	3—	5—	15—	25—	45—	65—	
All Causes { Certified	10610	1181	377	131	266	423	1043	2815	4374	11925
All Causes { Uncertified	28	8	—	—	1	1	1	3	14	—
1. Typhoid and Paratyphoid Fevers	8	1	1	—	2	1	1	2	—	9
2. Measles	111	25	63	14	9	—	—	—	—	121
3. Scarlet Fever	8	—	2	1	2	1	2	—	—	8
4. Whooping Cough	104	43	47	13	1	—	—	—	—	111
5. Diphtheria	148	7	30	34	68	6	1	2	—	161
6. Influenza	74	8	5	2	5	2	9	20	23	77
7. Encephalitis Lethargica	18	—	—	—	—	1	9	5	3	21
8. Cerebro-spinal Fever	37	19	6	—	3	2	4	3	—	42
9. Tuberculosis of Respiratory System	666	2	4	—	11	161	261	188	39	722
10. Other Tuberculous Diseases	103	10	21	14	11	26	10	8	3	120
11. Syphilis	58	8	—	—	—	2	10	29	9	66
12. General Paralysis of the Insane	16	—	—	—	—	—	3	13	—	18
13. Cancer	1344	1	2	—	4	12	90	619	616	1549
14. Diabetes	90	—	—	—	1	1	10	31	47	107
15. Cerebral Haemorrhage	496	—	—	—	—	2	11	146	337	534
16. Heart Disease	2466	—	1	3	10	46	138	683	1585	2678
17. Aneurysm	19	—	—	—	—	1	—	10	8	20
18. Other Circulatory Diseases	748	—	—	—	—	1	8	182	557	797
19. Bronchitis	210	25	5	1	4	3	15	58	99	228
20. Pneumonia (all forms)	871	239	121	17	18	30	94	194	158	959
21. Other Respiratory Diseases	80	2	5	4	3	1	11	36	18	89
22. Peptic Ulcer	114	—	—	—	—	3	33	60	18	143
23 Diarrhoea, etc.	149	114	10	3	—	1	8	6	7	162
24. Appendicitis	43	—	2	2	4	7	7	17	4	54
25. Cirrhosis of Liver	9	—	—	—	—	—	1	3	5	11
26. Other Diseases of Liver	61	1	—	1	1	2	3	21	32	79
27. Other Digestive Diseases	151	13	6	4	8	4	16	53	47	184
28. Acute and Chronic Nephritis	288	1	—	—	5	10	40	96	136	335
29. Puerperal Sepsis	11	—	—	—	—	3	8	—	—	14
30. Other Puerperal Causes	22	—	—	—	—	5	17	—	—	31
31. Congenital Debility, Premature Birth, Malformations, etc.	516	508	2	1	1	2	2	—	—	614
32. Senility	255	—	—	—	—	—	—	7	248	286
33. Suicide	76	—	—	—	—	5	24	37	10	81
34. Other Violence	305	15	13	12	35	20	62	56	92	353
35. Other Defined Causes	952	147	29	5	61	62	134	232	282	1130
36. Causes Ill-defined or unknown	11	—	2	—	—	1	2	1	5	11
Totals	10638	1189	377	131	267	424	1044	2818	4388	11925

CITY OF LIVERPOOL.

Infant Mortality during the year 1938.

Net Deaths from stated Causes at various Ages under One Year.

CAUSE OF DEATH.	Under 1 Week.	1 Week and under 2 Weeks.	2 Weeks and under 3 Weeks.	3 Weeks and under 4 Weeks.	Total under 4 Weeks.	4 Weeks and under 3 Months.	3 Months and under 6 Months.	6 Months and under 9 Months.	9 Months and under 12 Months.	Total Deaths under One Year.
All Causes. Certified	323	57	37	43	460	208	232	159	122	1181
All Causes. Uncertified	5	—	—	1	6	2	—	—	—	8
Typhoid Fever	—	—	—	—	—	—	—	—	1	1
Chicken-pox	—	—	—	—	—	—	—	—	—	—
Measles	—	—	—	—	—	1	—	9	15	25
Scarlet Fever	—	—	—	—	—	—	—	—	—	—
Whooping Cough	—	—	—	—	—	7	7	15	14	43
Diphtheria	—	—	—	—	—	1	—	4	2	7
Cerebro Spinal Fever	—	—	—	—	—	1	7	8	3	19
Influenza	—	—	—	—	—	2	3	2	1	8
Dysentery	—	—	—	—	—	—	2	1	—	3
Erysipelas	—	—	—	—	—	1	—	1	—	2
Pulmonary Tuberculosis	—	—	—	—	—	—	2	—	—	2
Tuberculous Meningitis	—	—	—	—	—	1	1	2	2	6
Other Tuberculous Diseases	—	—	—	—	—	—	1	1	2	4
Meningitis (not Tuberculous)	—	2	—	—	2	—	—	6	2	10
Convulsions	9	—	—	—	9	3	—	2	1	15
Bronchitis	1	—	—	3	4	9	5	4	3	25
Pneumonia (all forms)	6	6	3	9	24	60	70	48	37	239
Diarrhœa	—	1	—	2	3	2	4	1	—	10
Enteritis	2	1	—	1	4	23	43	18	16	104
Other Diseases of Stomach	—	—	—	—	—	—	—	1	—	1
Syphilis	1	1	2	—	4	2	1	1	—	8
Rickets	—	—	—	—	—	—	—	—	—	—
Suffocation	—	—	—	—	—	2	3	—	1	6
Injury at Birth	35	5	2	4	46	—	—	—	—	46
Atelectasis	31	1	1	1	34	1	—	—	—	35
Malformations	39	6	4	5	54	9	9	1	4	77
Premature Birth	173	29	16	14	232	39	4	—	—	275
Atrophy, Debility and Marasmus...	9	1	2	2	14	15	14	2	2	47
Other Causes	22	4	7	3	36	31	56	32	16	171
	328	57	37	44	466	210	232	159	122	1189

Net Births in the year { Legitimate ... 15,404; Illegitimate ... 771 }

Net Deaths in the year of { Legitimate Infants 1,109; Illegitimate Infants 80 }

CITY OF LIVERPOOL.

Notifiable Diseases (other than Tuberculosis) during the Year 1938.

Disease.	Number of Cases Notified.													Cases admitted to Hospital	Total Deaths
	At all Ages.	At Ages—Years													
		Under 1	1—	2—	3—	4—	5—	10—	15—	20—	35—	45—	65—		
m -pox	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
ca t Fever	2887	13	91	140	199	253	1159	583	221	182	36	9	1	1243	8
ip heria	2465	47	97	219	219	224	1006	347	150	121	27	8	—	2421	148
ic Fever (including Para-t hoid)	32	1	1	—	—	—	5	14	1	3	2	5	—	32	8
eral Fever	26	—	—	—	—	—	—	—	—	19	7	—	—	22	11
eral Pyrexia	351	—	—	—	—	—	—	—	20	277	54	—	—	316	—
ne nonia	1515	134	122	93	75	57	118	40	121	255	147	260	93	670	370
ro-spinal Fever	76	28	9	4	3	2	9	3	5	9	1	3	—	76	37
l nyelitis and Polioencephalitis	10	—	—	1	—	1	2	1	3	2	—	—	—	10	3
ph halitis Lethargica	18	—	—	—	—	—	—	—	—	5	6	4	3	13	18
y tery	41	7	6	7	4	6	4	—	1	3	3	—	—	38	6
ph almia Neonatorum	768	768	—	—	—	—	—	—	—	—	—	—	—	166	—
cy pelas	670	15	13	8	2	1	17	25	50	110	89	251	89	271	8
a ia	123	—	—	—	—	—	—	—	17	57	29	20	—	55	3
a ax	2	—	—	—	—	—	—	—	—	1	—	1	—	2	—
M les	3006	210	357	351	328	350	969	417	10	8	6	—	—	411	111
Ch kenpox	854	6	7	4	7	43	718	63	2	4	—	—	—	90	1
Totals	12844	1229	703	827	837	937	4007	1493	601	1056	407	561	186	5836	732

* Measles and Chickenpox were voluntarily notifiable from October 31st, 1920, until May 9th, 1937, when they were removed from the list of notifiable diseases.

CITY OF LIVERPOOL.

Birth-Rates, Death-Rates, and Analysis of Mortality during the year 1938.

England and Wales, London, 126 County Boroughs and Great Towns, and 148 Smaller Towns. (Provisional Figures)

—	Rate per 1,000 Population.		Annual Death-Rate per 1,000 Population.								Rate per 1,000 Live Births.		Percentage of Total Deaths.			
	Live Births.	Still-births.	All Causes.	Typhoid and Paratyphoid Fevers.	Small-pox.	Measles.	Scarlet Fever	Whooping Cough.	Diphtheria.	Influenza.	Diarrhœa and Enteritis (under two years).	Total Deaths under one year.	Certified by Registered Medical Practitioners.	Inquest Cases.	Certified by Coroner after P.M. No Inquest.	Uncertified Causes of Death.
ngland and Wales ...	15·1	0·60	11·6	0·00	0·00	0·04	0·01	0·03	0·07	0·11	5·5	53				
6 County Boroughs and Great Towns, including London ...	15·0	0·65	11·7	0·00	...	0·05	0·01	0·03	0·07	0·10	7·8	57				
8 Smaller Towns (Resident Populations 25,000 to 50,000 at Census 1931)	15·4	0·60	11·0	0·00	0·00	0·03	0·01	0·02	0·06	0·11	3·6	51	Not available.			
ondon	13·4	0·48	11·4	0·00	...	0·06	0·01	0·03	0·05	0·06	13·1	57				
Liverpool	18·7	0·74	12·3	0·01	...	0·13	0·01	0·12	0·17	0·08	7·5	73	94·4	3·0	2·3	0·3

	Puerperal Sepsis,	Others.	Total.
aternal mortality rates (provisional) for England and Wales are as follows: per 1,000 Total Births ...	0·86	2·11	2·97

* The rates for Liverpool have been calculated on a population estimated locally to the middle of 1938.

APPENDIX F.

CITY OF LIVERPOOL

DEATHS REGISTERED DURING THE YEAR 1938

Sex, age and district totals

Causes	Males	Females	1	2	3	4	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	90	Over 90	South District	North District	Total
ALL CAUSES	5613	5025	1189	256	121	78	53	50	117	193	231	207	253	269	315	456	583	821	958	1133	1195	1114	870	66	4514	6091	10638
Infectious and Parasitic Diseases—I	746	640	330	122	59	50	29	71	11	88	123	86	89	78	61	67	69	72	58	16	17	13	12	1	398	988	1386
Cancer and other Tumours—II	758	643	1		3			7	1	9	7	10	19	18	54	103	150	200	192	221	205	138	62	1	667	734	1401
Rheumatism and other General Diseases—III	105	156	3	1	3			6	18	7	14	11	9	9	7	13	10	32	21	34	31	19	11	2	113	148	261
Diseases of the Blood—IV	10	20	6			1		1	2	1	1		3	7	3	4	5	8	6	16	13	1	5		13	17	30
Chronic Poisoning—V	3	1														1	1	2							2	2	4
Diseases of Nervous System—VI	438	369	106	12	5	1		11	2	10	13	9	18	23	17	33	32	51	91	112	103	83	73	1	301	506	807
Diseases of Circulatory System—VII	1552	1681			1		3	3	8	24	23	20	27	36	57	88	152	274	361	480	585	594	459	32	1475	1758	3233
Diseases of Respiratory System—VIII	663	498	266	96	35	15	7	15	10	22	12	21	27	36	36	66	76	69	77	67	60	81	59	8	502	659	1161
Diseases of Digestive System—IX	289	238	128	12	6	6	4	6	7	10	7	6	13	18	31	34	34	36	54	33	33	31	18		259	268	527
Diseases of Genito Urinary System—X	296	200	4	1	1			2	5	5	6	11	8	18	17	27	30	47	57	83	76	52	43	3	259	237	496
Diseases of Pregnancy—XI		33								3	5	6	10	2	7										18	15	33
Diseases of Skin—XII	40	15	21		1		1		2			1	3	1	1	2	5	1	1	2	1	5	2		19	36	55
Diseases of Bones—XIII	16	5	1			1		6	3	2	1		1		2	1	1	1			1				8	13	21
Congen. Malformations—XIV	37	48	77	2		1		1		2		2													38	47	85
Diseases of Early Infancy—XV	271	160	431																						181	250	431
Old Age—XVI	127	128																1	8	15	39	69	109	14	51	204	255
Deaths from Violence—XVII	228	153	15	7	6	3	9	21	14	9	16	17	26	22	21	16	18	27	32	32	26	24	16	4	209	172	381
Ill-defined Diseases—XVIII	4	7		1	1					1		1		1		1				2	2		1		1	10	11
Typhoid Fever—Class 1	4	4	1	1					2		1		1			1	1								1	7	8
Measles	54	57	25	16	17	10	4	9																	53	58	111
Scarlet Fever	5	3		2		1			2	1			1	1											1	7	8
Whooping Cough	45	59	43	37	10	11	2	1																	49	55	104
Diphtheria	67	81	7	16	14	15	19	16	22	4	2			1		1		1							23	125	148
Influenza	31	40	8	2	3	1	1	1	4	2			2	4	3	3	6	6	5	6	4	8	5		41	33	71
Dysentery	5	1	3										1		1	1									4	2	6
Erysipelas	5	3	2							1									1	1	1		2			8	8
Poliomyelitis	1	2								2	1														1	2	3
Encephalitis Lethargica	6	12									1	1	2	4	2	3	1	1		1	2				3	15	18
Cerebro-Spinal Fever	20	17	19	4	2			3		2		1	2		1			1	2						9	28	37
Tub., Pulmonary	382	284	2	4				1	10	54	107	77	79	61	44	38	51	54	35	28	7	3	1		148	518	666
Tub., Meningitis	25	23	6	9	8	8	2	5		5	1		2	2											16	32	48
Tub., Peritonitis	5	6				1		1		7	1	1													2	9	11
Tub., Other Organs	26	18	4	1	3	2	1	2	3	7	5	3	1		1	3	2	1		2		1	1	1	11	33	44
Syphilis	39	19	8								2			4	6	4	7	6	12	5	1	2	1		23	35	58
Malaria	3									1					1	1									2	1	3
Chicken pox	1				1																					1	1
Other Infectious Diseases	19	11	2		1	1		2	1	2	2	1		1	2	2	1	2	3	3	2		2		11	19	30
Cancer, Buccal Cavity—Class 2	80	13										1			2	3	4	14	17	21	22	7	2		35	58	93
Cancer, Stomach	234	155									1		2	5	10	31	40	58	69	63	54	44	12		189	200	389
Cancer, Liver	25	14						1							3	2	7	2	7	6	4	4	3		23	16	39
Cancer, Intestines	131	132									1	2	5	3	6	11	20	34	29	40	63	32	16	1	130	133	263
Cancer, Lungs	104	35								1	1	3	2	5	8	16	24	27	23	23	3	3			58	81	139
Cancer, Female Genital Organs		108											1	1	11	9	14	15	11	17	14	12	3		52	56	108
Cancer, Breast		91											2	2	4	11	14	10	11	15	9	6	7		44	47	91
Cancer, Skin	17	11													1	3	1	1	1		9	9	3		6	22	28
Cancer, Other Organs	133	61	1		2			2	1	5	3	3	3	1	4	13	19	26	22	33	25	16	15		102	92	194
Non Malignant Tumours	34	23			1			4		3	1	1	4	1	5	4	7	13	2	3	2	5	1		28	29	57
Rheumatic Fever—Class 3	34	33						6	16	7	10	5	2	5	1	2	3	3		2	4	1			20	47	67
Chronic Rheumatism	16	38										1		1	2	2	1	10	3	9	11	6	6	2	29	25	54
Diabetes	39	51							1		1	3	3	2	2	4	3	11	13	16	15	11	5		39	51	90
Rickets	1				1																				1		1
Disease of Thyroid	10	28			1				1		2	2	2		2	4	3	8	5	6	1	1			20	18	38
Other General Diseases	5	6	3	1	1						1		2	1		1				1					4	7	11
Anaemia—Class 4	25	35	4			1		1					1	2	2	3	5	4	5	14	9	4			30	30	60
Leukaemia	10	13	1						2	1	2		2	5	2	1		2	1	2	2				9	14	23
Other Diseases of the Blood	5	2	1								2							2			2				4	3	7
Alcoholism—Class 5	3	1														1	1	2							2	2	4
Encephalitis—Class 6	6	6	1					1		1			2	2		1	2	1	1						5	7	12
Meningitis	13	8	10		2	2		3	1			1		1		1									3	18	21
Locomotor Ataxy	11	2															1	3	4	4		1			3	10	13
Other Diseases of Spinal Cord	5	2								1	1			1		1	1		2						3	4	7
Cerebral Haemorrhage	252	244							2			2	2	2	5	19	17	36	74	97	95	76	68	1	186	310	496
Paralysis	14	14								1	1					2		2	5	4	5	5	2		18	10	28
General Paralysis of the Insane	12	4												1	2	4	5	3	1						5	11	16
Epilepsy	29	17			1			2		4	6	5	5	8	3	3	2	2	2	3					22	24	46
Convulsions (under 5 years)	8	7	15																						9	6	15
Other Diseases of Nervous System	24	19		1	1	1				1	3	1	5	6	3	2	3	3	2	3	3	1			24	19	43
Mastoid Disease	61	49	80		8	2		5		2	2		2	3	3	1	1	1							23	87	110
Pericarditis—Class 7	5	5						1	1		1			1	1		1		1		3				7	3	10
Acute Endocarditis	9	13							2		1	3	2	2	1		1	2		2	1	1			8	14	22
Valvular Disease	144	203				1	2	3	3	16	19	19	17	15	14	21	22	13	35	43	42	24	15		155	187	341
Diseases of Myocardium	791	945								4		3	4	8	23	44	58	138	191	236	322	361	321	23	754	982	1736
Angina Pectoris	137	72												2	9	7	28	24	23	41	34	30	11		115	94	209
Other Diseases of Heart	63	82							1		1	1	1	7	5	4	12	20	18	20	23	15	17		80	65	145
Aneurysm	16	3									1					3	2	1	4	4	3	1			8	11	19
Arterio Sclerosis	272	256											1	1	1	5	17	28	49	85	113	136	83	8	258	270	528
Gangrene	4	6											1							2	5	1	1		3	7	10
Other Diseases of Circulatory System	111	99							1				1		3	4	11	28	40	47	39	25	11		85	125	210
Disease of Larynx—Class 8	2				1	1																				2	2
Bronchitis	114	96	25	3	2		1	3	1	3	2	6	2	3	4	7	14	18	19	13	19	41	22	4	96	114	210
Broncho-pneumonia	261	240	200	73	23	9	1	6	1	3		5	3	10	4	10	15	20	21	22	27	18	21	3	185	316	501
Pneumonia	239	131	33	16	9	2	2	5	6	17	10	10	19	20	23	41	36	24	27	30	9	15	10		184	186	370
Pleurisy	11	7		2		2		1					2		1	1	4	1	2		1	1			8	10	18
Pulmonary Congestion	12	6								1							2	1	3	1	2	3	3	1	7	11	18
Asthma	9	16							1				1		3	6	3	4	4	1	1	1			16	9	25
Other Respiratory Diseases	15	2	2	2					1					3	1	1	2	1	1		1	2			6	11	17
Diseases of Buccal Cavity—Class 9	11	15	5	1		2		1	1	2	2	2	1		3	3	2	3			1	1			12	14	26
Ulcer of Stomach, etc.	95	19								1	2	2	8	6	17	18	15	12	17	10	5	3			60	54	114
Other Diseases of Stomach	5	9	1						1			1		1			2		3	1	1	1			8	6	14
Diarrhoea	7	4	10				1																		8	3	11
Enteritis	72	66	104	7	3	1	1					2	2	2	2	1	1	3	1		3	3			59	79	138
Appendicitis	25	18		1	1	1	1		1	5	2	1	1	3	2	4	5	4	4	3	7	4			17	26	43
Hernia	15	19	2											3	1	1	1	2	5	4	3	2			15	17	31
Intestinal Obstruction	20	24	5	1		1			1	2				1	1		1	6	11	4	3	1			25	17	44
Cirrhosis (Non alcoholic)	5	4												1			1	1	1	1	3	1			6	3	9
Other Diseases of Liver	17	44	1					1	1		2			1	2	5	1	4	11	8	8	12	4		28	33	61
Peritonitis	8	6			2	2		1	4							2	1			1		1			7	7	14
Other Diseases of Digestive System	9	10												1	3	2	4	1	1	1	2	2	2		10	9	19
Acute Nephritis—Class 10	12	13	1					1	2	1		3	1	1	1	1	1		3	3	3	3			12	13	25
Chronic Nephritis	135	128							2	4	5	6	5	10	13	15	15	28	33	40	38	27	20	2	150	113	263
Other Diseases of Kidneys	52	41	3		1	1		1	1		1	1	2	1	1	9	10	13	10	15	7	4	8	1	41	52	93
Disease of Bladder	13	11												1	1		2	1	3	6	4	3	4		14	10	24
Disease of Urethra	14	1															1		3	2	4	3	1		5	10	15
Disease of Prostate	70																1	5	5	17	20	12	10		35	35	70
Disease of Uterus		3												2		1									1	2	3
Other Diseases of Female Gen. Organs		3											1		1	1									1	2	3
Puerperal Sepsis—Class 11		11								1	2	3	4		1										4	7	11
Other Puerperal Causes		22								2	3	3	6	2	6										14	8	22
Cellulitis—Class 12	18	4	3	1					2				1	2	1	1	4	1	1	1	1	1	1		9	13	22
Other Diseases of Skin	22	11	18	1	1			1					1	1	1	1	1		1	1	3	4	1		10	23	33
Diseases of Bones—Class 13	16	5					1	6	3	2	1		1		2	1	1	1			1	1			8	13	21
Malformations—Class 14	37	48	77	2			1	1		2		2													38	47	85
Congenital Debility—Class 15	32	15	47																						17	30	47
Premature Birth	167	108	275																						117	158	275
Injury at Birth	34	12	46																						15	31	46
Atelectasis	19	16	35																						18	17	35
Other Diseases of early Infancy	17	11	28																						14	14	28
Old Age—Class 16	127	128														1	8	15	39	69	109	14			51	204	255
Class 17.—Suicide by Coal Gas	19	21									3	1	2	5	4	6	1	3	8	5	1	1			26	17	43
Suicide by Hanging	13	2									1				1	2	1	3	5	1	1				8	9	15
Suicide by Poison	3	1											1	1	2				2						5	2	7
Suicide by Cut Throat	6										1			1											1	5	6
Suicide by High Place	2													1				1								2	2
Suicide by Strangulation	1													1											1		1
Suicide by Shooting	1													1											1		1
Suicide Before Vehicle	1																								1		1
Homicide	1	1																							2		2
Accidental Poisoning—Gas	3	6							1	1			1	1	1						2	1			7	2	9
Other Accidental Poisoning (not Gas)	4	3		1					1		1	1			1	1	1								5	2	7
Conflagration		1						1																	1		1
Accidental Burns, etc.	8	24	1	5	4	1	3	3		1				3					1	5				5	18	14	32
Accidental Suffocation	6	4	6	1						1				1											6	4	10
Accidental Drowning	12	3							1	1	1	1			1	1		4	2	1		1			8	7	15
Accidental Injuries	143	77	3		2	2	4	16	12	5	7	12	17	9	10	6	12	14	14	19	20	21	14	4	119	101	220
Other Violence	6	3	3				1					2	1							1	1				4	5	9
Ill-defined Causes—Class 18	4	7		1	1					1		1		1		1				2	2		1		1	10	11
Males			682	129	56	46	27	79	57	85	111	104	136	136	196	268	365	466	572	646	620	446	323	13	2312	3271	5613
Females			507	127	65	32	26	71	60	108	120	103	117	133	119	188	218	355	386	497	575	418	547	53	2202	2823	5025

Registration District South

Causes	1 Exch. (Exch. N. Scot. S. Scot. Vauxh'l)	2 Aberc. (Aberc.)	3 St. Pet. (Gt. Geo. St. Pet. Castle St. St. Anne's Bruns.)	4 Tox. Pk. (Dingle Sef. Pk. W. Prince Pk. Granby)	5 Sef. Pk. (Sef. Pk. E. comp. Smithd'n Road Hospital only)	6 Edge Hill (Edge Hill Kens'ton Low Hill Wav. W. Sef. Pk. E. except Smithd'n Road Hospital)	7 Wav. (Wav. Garston Allerton Aigburth Childwall Woolton)	North. Hosp.	Royal Infirmary	Royal Children's Hosp.	Mat. Hosp.	L'pool Sam and Women's Hosp.	Royal South Hosp.	Grafton Street Hosp.	Olive Mount Children's Hosp.	Other Institutions
ALL CAUSES	298	131	303	505	1131	620	726	111	175	163	41	5	122	18	58	122
I	36	13	25	35	33	66	60	9	11	29	1		3	18	53	6
II	27	13	24	78	204	78	136	19	34	3		3	27			21
III	6	4	5	12	23	20	20	2	6	3			6			6
IV			2	8	10	6	11	1	2				2			1
V					1				1							
VI	18	4	19	35	76	48	48	7	9	15	1		8			13
VII	97	49	131	188	414	234	263	8	31				20			39
VIII	44	15	37	66	114	86	64	23	6	33	2		13		4	13
IX	19	6	10	13	78	14	18	16	26	38		1	16			4
X	10	8	11	15	87	38	43	12	15	3		1	7			9
XI	2				8		1		3		4					
XII		1	1	2	3	4	1		1	5			1			
XIII	1		1		1	1				1			1			2
XIV	2		3	3	7	3	5	1		6	3		3		1	1
XV	16	9	16	19	33	12	18		9	18	30		1			
XVI	4	3	1	5	6	21	7									1
XVII	16	6	17	26	33	18	30	16	21	9			14			3
XVIII		1														
Typhoid Fever									1							
Measles	8	4	4	2	2	6	3								24	
Scarlet Fever						1										
Whooping Cough	5	1		4		6	4								29	
Diphtheria							3			2				18		
Influenza	4		3	5	6	5	12	1		3						2
Dysentery									1	3						
Erysipelas																
Poliomyelitis									1							
Encephalitis Lethargica						2			1							
Cerebro-Spinal Fever					2			1		6						
Tub., Pulmonary	18	7	17	18	9	38	32	1	1	3						4
Tub., Meningitis	1				2	1	2	3	2	3			2			
Tub., Peritonitis										2						
Tub., Other Organs		1		2	1	2	2	2		1						
Syphilis			1	2	8	5	1		1	4	1					
Malaria				1					1							
Chicken pox																
Other Infectious Diseases				1	3		1	1	2	2			1			
Cancer, Buccal Cavity	2		1	3	14	3	10		1				1			
Cancer, Stomach	9	7	6	31	46	26	42	3	12				2			5
Cancer, Liver	3	1	1		5	5	7						1			
Cancer, Intestines	4	2	5	12	50	13	30	3	2				7			2
Cancer, Lungs	1	1	2	12	10	8	7	3	6				4			4
Cancer, Female Genital Organs	2		3	6	22	7	5	1	1			3	1			1
Cancer, Breast	3	1	2	5	14	6	8	1	1							3
Cancer, Skin					3		2									1
Cancer, Other Organs	2	1	3	7	34	9	19	5	7	3			7			5
Non Malignant Tumours	1		1	2	6	1	6	3	4				4			
Rheumatic Fever	2		2	3	4	2	2		1	1			1			2
Chronic Rheumatism	2	2	2	3	5	6	6									3
Diabetes	1	2		6	11	6	8		1				4			
Rickets							1									
Disease of Thyroid	1				3	5	3	1	4	1			1			1
Other General Diseases			1			1		1		1						
Anaemia			1	6	7	4	8	1					2			1
Leukaemia			1	2	2	1	1		2							
Other Diseases of the Blood					1	1	2									
Alcoholism					1				1							
Encephalitis					2		1				1		1			
Meningitis	1				1			1								
Locomotor Ataxy						1	1									1
Other Diseases of Spinal Cord	1				2											
Cerebral Haemorrhage	12	4	11	23	50	31	33	6	8				2			6
Paralysis			1	2	9	4	1						1			
General Paralysis of the Insane				3	1	1										
Epilepsy	2		3	2	3	6	3			1			2			
Convulsions (under 5 years)			3	1		1	4									
Other Diseases of Nervous System	2		1	4	5	4	4		1				1			2
Mastoid Disease					3		1			14			1			4
Pericarditis		1		1	1	1	1	1	1							
Acute Endocarditis			1		1		4		2							
Valvular Disease	13	6	20	18	23	42	25		4				3			3
Diseases of Myocardium	49	20	74	108	262	100	115	2	1				5			18
Angina Pectoris	8	6	9	19	9	13	39	2	5				1			4
Other Diseases of Heart	8		3	2	39	12	8	1	2				2			3
Aneurysm			3		1	2	1						1			
Arterio Sclerosis	14	12	14	35	53	51	51	1	10				8			9
Gangrene					1	1			1							
Other Diseases of Circulatory System	5	4	7	5	24	12	20	1	5							2
Disease of Larynx																
Bronchitis	14	3	12	13	10	16	20			1			2			5
Broncho-pneumonia	12	5	14	32	43	18	19	3	2	19	2		7		4	5
Pneumonia	16	6	10	15	52	25	22	18		13			4			3
Pleurisy	1			1	2	2			2							
Pulmonary Congestion	1			1	2		1	1	1							
Asthma		3	1	4	4	4										
Other Respiratory Diseases					1	1	2	1	1							
Diseases of Buccal Cavity		1	2		4	1	1		2	1						
Ulcer of Stomach, etc.	3		1		30	2	2	7	11				3			1
Other Diseases of Stomach			2	2	2	1							1			
Diarrhoea				1			1			5						1
Enteritis	7		2	2	6	7	1	2	1	27			1			1
Appendicitis		1			9	1			3				3			
Hernia	1	1		1	9				2				1			
Intestinal Obstruction	2	1	1	2	8			3	2	2			6			
Cirrhosis (Non alcoholic)	1		1		1	2			1							
Other Diseases of Liver	3	1	1	3	6		5	3	3			1	1			
Peritonitis				1	2		1			3						
Other Diseases of Digestive System	1	1	1	1			4									1
Acute Nephritis	2		1	2	3	1	1		1	1						
Chronic Nephritis	6	3	3	10	53	26	28	4	7	1			2			6
Other Diseases of Kidneys	1	2	5		12	5	9	2	2	1			1			1
Disease of Bladder			1	1	4	3	2		2				1			
Disease of Urethra					1	1	1	1	1							
Disease of Prostate	1	2	1	2	14	2	2	5	2				3			1
Disease of Uterus												1				
Other Diseases of Female Gen. Organs																1
Puerperal Sepsis					4											
Other Puerperal Causes	2				4		1		3		4					
Cellulitis					1	1			1	2			1			
Other Diseases of Skin		1	1	2	2		1			3						
Diseases of Bones	1		1		1	1				1			1			2
Malformations	2		3	3	7	3	5			6	3		3		1	1
Congenital Debility	3		2	1		1	5			4	1					
Premature Birth	8	7	12	13	25	5	11		5	7	24					
Injury at Birth	2	1	1	1		2	1		2	1	4					
Atelectasis	2		2	4	4		1		1	2	1					
Other Diseases of early Infancy	1	1		2	4				1	4			1			
Old Age	4	3	1	5	6	21	7									4
Suicide by Coal Gas	1	1	2	9		5	8									
Suicide by Hanging	1		2	2		1										
Suicide by Poison			2		1	1	1									
Suicide by Cut Throat		1														
Suicide by High Place																
Suicide by Strangulation		1														
Suicide by Shooting																
Suicide Before Vehicle					1											
Homicide			1	1												
Accidental Poisoning—Gas			1	3			3									
Other Accidental Poisoning (not Gas)			1	2			1		1							
Conflagration																
Accidental Burns, etc.				1	3	1	1	4	1	5			2			
Accidental Suffocation		2		1			2									
Accidental Drowning	4		1	1		2										
Accidental Injuries	10	1	7	6	28	7	12	12	19	2			12			3
Other Violence						1	2			1						
Ill-defined Causes		1														
Males	130	68	164	236	637	302	331	79	114	96	21		69	7	25	60
Females	168	66	139	269	494	327	392	35	61	67	20	5	53	11	33	62

Registration District North

Causes	1 Faz. (Crox. Faz.)	2 Walton (Walton Anfield W'brck except Walton Hosp.)	3 Walt. Pk. (W'brck comp. Walton Hosp. only)	4 Kirkdale (K'dale S'hills)	5 Neth. (Neth. St. Dom. Br'ckf'ld)	6 Ev. (Ev.)	7 W. Derby (I'field O. Swan W. Derby)	Faz. Hosp.	Faz. Ann.	Faz. San.	Belm. Road Inst.	Stanley Hosp.	K'dale Homes	Neth. Road Hosp.	Mill Road Infirmary	Mill Lane Hosp.	Broad Green San.	Alder Hey Hosp.	Other Institutions
ALL CAUSES	257	462	1488	327	331	133	556	93	21	71	628	54	165	21	769	30	105	553	33
I	39	45	274	39	28	9	18	80	19	70	24	3	3	20	38	30	102	116	1
II	41	63	323	32	31	13	79			1	35	10	3		95		1	2	1
III	4	17	45	6	9	1	13				9	2			22			20	
IV	4	2	11	2	3		7				2	3			9			1	
V							2												
VI	15	25	62	27	26	8	35	1			87	1	33		92			92	2
VII	81	166	339	122	139	62	226	1			355	6	32		201			12	13
VIII	29	55	141	43	43	16	12	8	2		23		7	1	86		1	160	2
IX	8	11	61	13	8	6	16	2			7	5	1		55			71	
X	4	23	89	7	6		30				12	4	2		59			9	1
XI		1	9				1					1			3				
XII			6		1	2	2	1			18				2			4	
XIII												1			3			9	
XIV	4	4	12	1	1	1	2								11			11	
XV	10	14	81	10	17	2	16								64			36	
XVI	6	11	1	10	5	1	22				51		83		1				13
XVII	10	21	38	13	11	12	12				4	15	1		28		1	6	
XVIII	1	1	2	2			3											1	
Typhoid Fever	1							2										4	
Measles	2	4	16	10	1	1	4	10			2							8	
Scarlet Fever		2						3								1		1	
Whooping Cough	4	2	1	4	3		2	19	1		3							15	1
Diphtheria			1			1	1	35	16	1	2			20		29		19	
Influenza	5	9		2	1	2	7											7	
Dysentery			2																
Erysipelas			4					1	1		1							1	
Poliomyelitis			1					1											
Encephalitis Lethargica	1		2	1	1		2	1			1		2		1				
Cerebro-Spinal Fever			1					2				1			5			19	
Tub., Pulmonary	25	26	216	22	20	4	26	1		58	2		1		11		101	5	
Tub., Meningitis		1	4					3	1						2			21	
Tub., Peritonitis		1	2				1			4								1	
Tub., Other Organs			10					1		7					2		1	12	
Syphilis	1		9		1		2				10				12				
Malaria															1				
Chicken pox																		1	
Other Infectious Diseases			5		1	1	3	1				2			4			2	
Cancer, Buccal Cavity	2	4	35	1	4	3	5				1		1		2				
Cancer, Stomach	8	22	86	14	11	3	19				10	3			23				1
Cancer, Liver	2	3	1	1	1		1				2		1		1				
Cancer, Intestines	8	12	55	7	6	2	13				9	2			19				
Cancer, Lungs	2	9	42	1	2	2	9				1	1			12				
Cancer, Female Genital Organs	6	1	24	4	2	1	9				3	3			3				
Cancer, Breast	4	2	18	2		2	11				3				5				
Cancer, Skin	2	2	9	1			1			1	5				1				
Cancer, Other Organs	5	6	37	1	6		10				1	4	1		22		1	1	
Non Malignant Tumours	2	2	13		2		1				1				7			1	
Rheumatic Fever	3	5	8	4	1		5								4			17	
Chronic Rheumatism		6	3		3		4				8				1				
Diabetes	1	5	21	2	3		2				1	2			13			1	
Rickets																			
Disease of Thyroid		1	11		2	1	2								1				
Other General Diseases			2												3			2	
Anaemia	3	2	6	2	1		5				2	2			3			4	
Leukaemia	1		5		2		1					1			4				
Other Diseases of the Blood							1								2				
Alcoholism							2												
Encephalitis							2				1				4				
Meningitis			1				1	1										15	
Locomotor Ataxy			1								4		1		1				
Other Diseases of Spinal Cord			2		1										1				
Cerebral Haemorrhage	12	21	16	17	17	3	20				79	1	25		96			2	1
Paralysis			1	2	3		2								1				1
General Paralysis of the Insane				1	2	1	3								4				
Epilepsy	1	2	3	2	1	4	3						6		2				
Convulsions (under 5 years)	1	1		2			1								1				
Other Diseases of Nervous System	1	1	3	3	2		3				3		1		1			1	
Mastoid Disease			5												8			74	
Pericarditis			1															2	
Acute Endocarditis	1	1	2				1	1							7			1	
Valvular Disease	12	25	45	14	16	12	38				2	1			11			8	3
Diseases of Myocardium	32	62	174	66	75	36	102				241	1	26		158				7
Angina Pectoris	9	16	10	11	10	5	25					2			6				
Other Diseases of Heart	5	12	15	3	9	4	15								2				
Aneurysm		2	4	1	3										1				
Arterio Sclerosis	22	35	33	19	18	3	33				91	1	3		10			2	
Gangrene											7								
Other Diseases of Circulatory System	3	13	55	8	6	2	12				14	1	3		6			1	1
Disease of Larynx															1			1	
Bronchitis	5	15	22	6	10	5	12				15		6		12			1	
Broncho-pneumonia	15	23	51	23	18	6	17	7	2		4		1	1	18			129	
Pneumonia	7	14	58	12	11	2	11	1			2				9			18	
Pleurisy	1	1	2												4				
Pulmonary Congestion		1	4		3		1				2								
Asthma		1			1	2	1								4				
Other Respiratory Diseases			3	2		1									1			5	
Diseases of Buccal Cavity		2	2	1				2					1		1			3	
Ulcer of Stomach, etc.	1	3	23		1		2				1	1			22				
Other Diseases of Stomach			2				2				1							1	
Diarrhoea				1														2	
Enteritis	3	1	5	5	3	1	4				3				2			19	
Appendicitis		1	6	1			2					2			8			6	
Hernia		1	2		3						1				10				
Intestinal Obstruction		1	5		2		1								5			3	
Cirrhosis (Non alcoholic)			1	1			1												
Other Diseases of Liver	2	2	11	3	1	2	4				1	1			5			1	
Peritonitis			1															6	
Other Diseases of Digestive System			6	1	1							1							
Acute Nephritis		1	2	2	1		4								1			2	
Chronic Nephritis	3	19	34	3	1		15				9		2		25			2	
Other Diseases of Kidneys			17	1	2		9								16			6	1
Disease of Bladder			3		1		1				1	1			3				
Disease of Urethra		1	5									1			3				
Disease of Prostate	1	2	17	1	1						2	1			10				
Disease of Uterus			1												1				
Other Diseases of Female Gen. Organs			1				1												
Puerperal Sepsis	1	3					1								2				
Other Puerperal Causes		1										1			1				
Cellulitis		1			1	1	1	1							2			3	
Other Diseases of Skin		2				1	1				18							1	
Diseases of Bones												1			3			9	
Malformations	4	4	12	1	1	1	2								11			11	
Congenital Debility	1	2		2	2		1								2			17	
Premature Birth	5	11	51	7	10	1	11								48			11	
Injury at Birth			16		1		1								11			2	
Atelectasis	2	1	7	1	3	1									1			1	
Other Diseases of early Infancy	2		7		1										2			2	
Old Age	6	11	1	10	5	1	22				51		83		1				13
Suicide by Coal Gas	2	4		3	2	2	3					1							
Suicide by Hanging		2			4	1	2												
Suicide by Poison		1					1												
Suicide by Cut Throat	1	1	1												1		1		
Suicide by High Place		1									1								
Suicide by Strangulation																			
Suicide by Shooting																			
Suicide Before Vehicle																			
Homicide																			
Accidental Poisoning—Gas					1										1				
Other Accidental Poisoning (not Gas)		2			1	1													
Conflagration																			
Accidental Burns, etc.	2		2	1	1		1					1	1		3			2	
Accidental Suffocation	1	1					1												
Accidental Drowning	2	2	1	1			1												
Accidental Injuries	4	7	34	6	3	6	4				3	9			21			4	
Other Violence		1	1			1						1			1				
Ill-defined Causes	1	1	2	2			3											1	
Males	125	214	912	160	167	60	254	45	9	11	269	29	141	10	457	14	54	298	12
Females	132	248	576	167	161	73	302	48	12	30	359	22	21	11	312	16	51	255	21

Suicide by: Coal Gas, Hanging, Poison, Cut Throat, High Place, Strangulation, Shooting, Before Vehicle. Inquests: Class 17.